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(54) **AN ELECTRICAL CONNECTOR FOR A WIRELESS ELECTRICAL APPARATUS**

ELEKTRISCHER VERBINDER FÜR EINE DRAHTLOSE ELEKTRISCHE VORRICHTUNG

CONNECTEUR ELECTRIQUE POUR APPAREIL ELECTRIQUE SANS FIL

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(73) Proprietor: **Ke, Cilong**
Beilun, Ningbo,
Zhejiang 315800 (CN)

(72) Inventor: **Ke, Cilong**
Beilun, Ningbo,
Zhejiang 315800 (CN)

(74) Representative: **Smith, Norman Ian et al**
Cleveland
40-43 Chancery Lane
London WC2A 1JQ (GB)

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Description

FIELD OF THE INVENTION

[0001] The present invention is related to an electrical connector, especially related to a rotatable connector for use with a cordless and detachable electrical appliance, such as electrical heater pot, cordless frying pan, cordless electrical flatiron and so on.

BACKGROUND OF THE INVENTION

[0002] In the present in a detachable electrical apparatus, such as cordless electrical pot, cordless frying-pan, cordless electrical flatiron and etc, typically, there is a plug on the bottom of the electrical appliance, and there is a socket on the corresponding power supply pedestal. When the electrical apparatus is placed on the pedestal, the plug and the socket are engaged together mutually, so as to supply the power to the electrical appliance. Usually, there is a straightly pillared receiving terminal lug on the plug. Because of its structural restriction, the plug and the socket respectively lie in the periphery of the electrical appliance and the power supply pedestal, that is, far away from the barycenter of electrical appliance, so not only the appearance but also the effect of connection is influenced. Therefore, "cordless electrical appliance and its junction" (published serial No.CN1135270A) corresponding document WO 9508204 A1 ("Cordless electrical appliances and connectors therefore"), disclosing the preambles of claims 1 and 10, provides a rotatable electrical connector, including an electronegative tie-in (plug) and an electropositive tie-in (socket). The plug includes a center conducting pillar receiving terminal lug and a ring receiving terminal lug being concentric with that terminal lug. In the front of the socket there is an opening for accepting the center pillar receiving terminal lugs and the ring receiving terminal lugs of the plug. And the socket has a separate power supply contact for bonding with the receiving terminal lugs. This design makes the plug in the bottom center of electrical appliance near its barycenter or at the same plumb line with it, and freely rotates relative to power supply pedestal without impeding the electrical connecting effect from the horizontal direction, which makes the electrical appliance setting in the power supply pedestal more firm and gets better connecting effect. However, the socket is being power supplied continuously, that is, the contact sheet in the center hole or ring grooves is being electrified continuously. So, for avoiding getting an electric shock accident and assuring the connecting effect, the diameter of the center hole and ring groove's width must be very small, normally, no more than 3mm, which requires the user to align the plug and socket straight carefully when using. Therefore, it makes the user's inconvenience; on the other hand, because it limits the size of supply pedestal, when the power supply to the electrical appliance is large and a larger size of connector is needed, it's hard to realize.

SUMMARY OF THE INVENTION

[0003] This invention addresses the limitations in the prior art described above. It provides a new connector for cordless electrical appliance, which keeps the connecting contact sheet of socket connected with plug being power off all the time while the plug is not inserted.

[0004] EP 1 253 679 which was published after the priority date of the present application but which has an earlier filing date describes an electrical connector for use with, for example, a cordless kettle. It describes a switching mechanism whereby electrical power to terminals in the power supply base of the kettle is inhibited whilst no kettle stands on the base. In this state contacts to supply power to such terminals are held apart. When a kettle is placed on the base this operates actuators allowing the spaced contacts to move into contact with one another such that power can be supplied to the terminals. The actuators are in the form of pins which are separate from the electrical contacts between the base and the kettle.

[0005] According to one aspect of the present invention there is provided an electrical connector as claimed in claim 1.

[0006] According to another aspect of the present invention there is provided an electrical connector as claimed in claim 10.

[0007] Further, optional, features of the electrical connector are defined by the dependent claims.

[0008] The present device sets up two pair of mutually corresponding power supply contact sheet teams, and when the plug isn't inserted into the socket, in the power supply contact sheet team at least one of them connected with the live wire or zero line of power supply and its corresponding power supply contact sheet keeps normally open, which makes that the visible power supply contact sheet of the socket surface is not electrified all the time, and also not only safety in use, but also facilitative connection on account of the unrestricted width and depth, even inserting incliningly, the effect is the same. At the same time, the present arrangement will make it possible to design, manufacture and utilize larger power electrical connector, and widen its applied field immensely, support the variegated development of products such as electrical pot and electrical frying pan.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

Fig. 1 is a diagram of the structural sectional view of the first exemplary embodiment of the present invention;

Fig. 2 is a diagram of the structural sectional view of the Fig. 1 when the two parts are engaged as a whole body;

Fig. 3 is a diagram of the structural sectional view of the installation when it is applied for a cordless electrical pot;

Fig. 4 is a diagram of the structural sectional view of the second exemplary embodiment of the present invention;

Fig. 5 is a diagram of the structural sectional view of the Fig. 4 when the two parts are engaged as a whole body;

Fig. 6 is a diagram of the structural sectional view of the third exemplary embodiment of the present invention;

Fig. 7 is a diagram of the structural sectional view of the Fig. 6 when the two parts are engaged as a whole body;

Fig. 8 is a diagram of the structural sectional view of the fourth exemplary embodiment of the present invention 4;

Fig. 9 is a diagram of the structural sectional view of the Fig. 8 when the two parts are engaged as a whole body;

fig. 10 is a diagram of the A-direction part view of Fig. 8;

Fig. 11 is a diagram of the structural sectional view of the fifth exemplary embodiment of the present invention 5;

Fig. 12 is the structural sectional view of the Fig. 11 when the two parts are engaged as a whole body;

Fig. 13 is a diagram of the B-direction part view of Fig. 11;

Fig. 14 is a diagram of the structural sectional view of the sixth exemplary embodiment of the present invention;

Fig. 15 is a diagram of the structural sectional view of the Fig. 14 when the two parts are engaged as a whole body.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] In connection with the drawings above, hereinafter is the further description of embodiments of the invention.

[0011] Example one, as shown in Figs 1, 2, includes a plug 100 and a socket 200 that are interconnectable and relatively rotatable.

[0012] In the center of the socket's upper face there is a plughole and a number of ring grooves being concentric with the plughole, inside the plughole is a center power supply receiving pillar 202, inside and outside the ring groove there are power supply contact sheets 201, 203, inside the power supply contact's 201 underside there is an immovable contact 201a extended outwards, and outside the power supply contact 203 there is an immovable contact 203a.

[0013] On the underside of the socket 200 there are three corresponding power supply contacts 301, 302, 303 all in the form of movable contact sheets, which correspond to the power supply contact sheet 201, the power supply receiving pillar 202 and the power supply contact sheet 203 respectively; the power supply contact sheet 302 is connected with the earth wire of the power supply and pressed against the power supply receiving pillar 202 all the time. The power supply contacts 301, 303 are respectively connected with the live wire and the zero line of the power supply, and on the one side of the supply contact sheet 301 there is a movable contact 301a, opposite to an immovable contact 201a of the power supply contact 201; on the one side of power supply contact sheet 303 there is a movable contact 303a, opposite to an immovable contact 203a of the power supply contact sheet 203.

[0014] The isolating pushrod 304 is in the horizontal direction, whose central section is connected with the root of socket's center receiving pillar (202), on the both sides of which there is an underside warp, with a slope side, and the half part of its underside touches with power supply contact sheet 301, 303's corresponding parallel slope; which forms the contact switching mechanism.

[0015] On the plug 100 there is a bulgy ring wall 104 that can be plugged into socket's 200 ring groove, and in the center of which there is a receiving plug pillar 102, corresponding to socket's power supply pillar 202; on two sides of which there are two receiving contact sheets 101, 103, and in its underside there are contacts 101a, 103a, corresponding to socket's power supply contact sheets 201, 203 respectively.

[0016] When the plug 100 and the socket 200 are interconnected, see Fig. 2, the receiving contact sheets 101, 103 of the socket respectively through the contacts 101a, 103a touch the power supply contact sheets 201, 203 of the socket, the plug's center plug pillar 102 presses the socket's center receiving pillar 202 down, then the isolating pushrod 304 moves down with it, under the action of the slope between the warp and the power supply contact sheets 301, 303, causing the power supply contact sheets 301, 303 to move towards power supply contact sheet 201, 203 respectively until the movable contacts 301a, 303a touch the immovable contacts 201a, 203a respectively.

[0017] When in use, see the example shown in Fig. 3, fix the plug 100 in the center of electrical potts bottom and fix the socket 200 in the center of power supply socket, the plug, 100 and the socket 200 are interconnectable

integratively and the electrical pot is heated when the electrical pot is put on the power supply socket.

[0018] In the above example, the isolating pushrod 304 under the action of its two sides acts on two power supply contact sheets 301, 303 at the same time, however, in practical application, it can act one of the power supply contact sheets only through one side, and another power supply contact is connected directly with its corresponding line of power supply.

[0019] According to example 2, as shown in Figs. 4, 5, in the center of socket's 210 upper face there are one plughole and two ring grooves being concentric with the plughole, in the plughole there is a center power supply receiving pillar 212, outside the external ring groove there is a ring power supply contact sheet 211, at the bottom of the internal ring groove there is a ring power supply contact sheet 213, inside the power supply contact 211's underside there is an immovable contact 211a extended outwards, and outside of the power supply contact 213 there is an immovable contact 213a.

[0020] On the underside of the socket 210 there are three corresponding power supply contacts 311, 312, 313 all in the form of movable contact sheets, which correspond to the power supply contact sheet 211, the power supply receiving pillar 212 and the power supply contact sheet 213 respectively; the power supply contact sheet 312 is connected with the ground wire of the power supply and pressed against power supply receiving pillar 212 all the time; the power supply contacts 311, 313 are in the vertical direction, connected with live wire and zero line of power supply respectively, and that, on one side of the supply contact sheet 311 there is a movable contact 311a, opposite to the immovable contact 211a of the power supply contact 211; on one side of power supply contact sheet 313 there is a movable contact 313a, opposite to the immovable contact 213a of the power supply contact sheet 213.

[0021] The insulating sheet whose section is of inverted T-type and whose underside is held by a reset spring 315 is under the power supply receiving pillar 212. On its both sides there are power supply contact sheets 311, 313. And the upside of the insulating sheet 314 is connected with the root of the socket's center receiving pillar 212.

[0022] On plug 110 there is a bulgy ring wall 114 that can be plugged into socket's 210 ring groove, and in the center of which there is a receiving plug pillar 112, corresponding to socket's power supply pillar 212; on both sides of which there are two receiving contact sheets 111, 113, corresponding to socket's power supply contact sheets 211, 213 respectively and there is contact 111a in the receiving contact sheet 111.

[0023] When the plug 110 and the socket 210 are interconnected, see Fig. 5, the receiving contact sheet 111 of the plug touches the power supply contact sheets 211 of the socket through contact 111a, and the receiving plug pillar 113 touches the power supply contact sheet 213, and the plug's center plug pillar 112 presses the

socket's center receiving pillar 212 down, then the isolating sheet 314 moves down with it, causing the vertical power supply contact sheets 311, 313 to move towards power supply contact sheets 211, 213 respectively until movable contacts 311a, 313a respectively touch immovable contacts 211a, 213a.

[0024] In the above example, the isolating sheet 314 under the action of its both sides acts on two power supply contact sheets 311, 313 at the same time, however, in practical application, it can act one of the power supply contact sheets only through one side, and another power supply contact is connected directly with its corresponding line of power supply.

[0025] According to example 3, as shown in Figs 6, 7, in the center of the socket's 220 upper face there are one plughole and two ring grooves being concentric with the plughole, inside the plughole is a center power supply receiving pillar 222, at the bottom of the ring groove there are ring power supply contact sheets 221, 223, with a underside extended outwards and a tortuous end where there are immovable contacts 221a, 223a.

[0026] On the underside of the socket 220 there are three corresponding power supply contact sheets 321, 322, 323 all in the form of movable contact sheets, which correspond to the power supply contact sheet 221, the power supply receiving pillar 222 and power supply contact sheet 223; the power supply contact sheet 322 is connected with the ground wire of the power supply and pressed against the power supply receiving pillar 222 all the time; on the immovable contacts 221a, 223a the power supply contacts 321, 323 are connected with the live wire and the zero line of power supply respectively, and that on, the underside of supply contact sheets 321, 323 there are movable contacts 321a, 323a, corresponding to immovable contacts 221a, 223a respectively.

[0027] The isolating pushrod 324 is in horizontal direction, whose central section is connected with the root of socket's center receiving pillar 222 and whose two sides are connected with the power supply contact sheets 321, 323 respectively.

[0028] On the plug 120, there is a bulgy ring wall 124 that can be plugged into the socket's 220 ring groove, and in the center of which there is a receiving plug pillar 122, corresponding to socket's power supply pillar 222; on both sides of which there are two receiving plug pillars 121, 123, corresponding to socket's power supply contact sheets 221, 223 respectively.

[0029] When plug 120 and socket 220 are interconnected, see Fig. 7, the receiving plug pillar 121, 123 of the plug touches the power supply contact sheets 221, 223 of the socket respectively. The plug's center plug pillar 122 presses the socket's center receiving pillar 222 down, the isolating pushrod 324 then moves down with it, under the action of vertical power supply contact sheets 321, 323, which causes the vertical power supply contact sheets 321, 323 to move towards power supply immovable contacts 221a, 223a respectively until movable contacts 321a, 323a touch immovable contacts 221a, 223a

respectively.

[0030] In the above example, the isolating pushrod 324 under the action of its both sides acts on two power supply contact sheets 321, 323 at the same time, however, in practical application, it can act one of the power supply contact sheets only through one side, and another power supply contact is connected directly with its corresponding line of power supply.

[0031] According to example 4, as shown in Figs 8, 9, 10, in the center of the socket's 230 upper face there is a plughole and a ring grooves being concentric with the plughole, inside the plughole is a center power supply plug pillar 232, on the inside and the outside of the ring groove there are ring power supply contact sheets 231, 233, with an underside extended outwards and a tortuous end where there are immovable contacts 231a, 233a.

[0032] On the underside of the socket 230 there are three corresponding power supply contacts sheets 331, 332, 333 all in the form of movable contact sheets, which correspond to the power supply contact sheet 231, the power supply receiving pillar 232 and the power supply contact sheet 233 respectively; the power supply contact sheet 332 is connected with the ground wire of the power supply and pressed against the power supply receiving pillar 232 all the time; the power supply contacts 331, 333 which are in parallel and connected with the live wire and the zero line of power supply respectively, one side of which is fixed on the shell of the socket, on another side there are movable contacts 331a, 333a, which are under the immovable contacts 231a, 233a and opposite to them respectively.

[0033] The isolating lever 334 is of inverted T-type, one side of the vertical rod of which is connected with the root of socket's center receiving pillar 232 and the horizontal rod of which is under the movable contacts 331a, 333a.

[0034] On the plug 130 there is a ring bulgy wall 134 that can be plugged into the socket's 230 ring groove, and in the center of which there is a receiving plug pillar 132, corresponding to socket's power supply pillar 232; on both sides of which there are two receiving plug pillars 131, 133, and on the underside of it there are contacts 131a, 133a, corresponding to socket's power supply contact sheets 231, 233 respectively.

[0035] When the plug 130 and the socket 230 are interconnected, see Fig. 9, the receiving plug pillar 131, 133 of the plug through the power supply contacts 131 a, 133a of the plug touches power supply contact sheets 231, 233 of the socket respectively, the plug's center plug pillar 132 presses and pushes the socket's center receiving pillar 232 down, then the isolating lever 334 turns, raising the end of movable contacts 331a, 333a of the movable contact sheets 331, 333 until movable contacts 331a, 333a touch immovable contacts 231a, 233a respectively.

[0036] In the above example, the isolating lever 334 under the action of its both sides acts on two power supply contact sheets 331, 333 at the same time, however, in practical application, it can act one of the power supply

contact sheets only through one side, and another power supply contact is connected directly with its corresponding line of the power supply.

[0037] According to example 5, as shown in Figs 11, 12, 13, in the center of the socket's 240 upper face there are one plughole and one ring grooves being concentric with the plughole, inside the plughole is a center power supply plug pillar 242, on the inside and outside of the ring groove there are ring power supply contact sheets 241, 243, with an underside extended downwards and a tortuous end where there are immovable contacts 241 a, 243a.

[0038] On the underside of the socket 240 there are three corresponding power supply contacts sheets 341, 342, 343 all in the form of movable contact sheets, which correspond to the power supply contact sheet 241, the power supply receiving pillar 242 and the power supply contact sheet 243 respectively; the power supply contact sheet 342 is connected with the ground wire of the power supply and pressed against the power supply receiving pillar 242 all the time; the power supply contacts 341, 343 which are in parallel are connected with the live wire and the zero line of the power supply respectively, one side of which is fixed on the shell of the socket, on another side there are movable contacts 341a, 343a, which are under immovable contacts 241a, 243a and opposite to them respectively, and its central section is held by pivot

[0039] The insulating sliding sheet 344 is lambdoidal, see Fig. 13. Its upside runs thoroughly through the bottom of socket's concentric ring groove and it can slide up and down. On its two undersides there are power supply contacts 341, 343 near their fixed parts above respectively.

[0040] On the plug 140 there is a ring bulgy wall 144 that can be plugged into socket's 240 ring groove, and in the center of which there is a receiving plug pillar 142, corresponding to socket's power supply pillar 242; on two sides of which there are two receiving contact sheets 141, 143, and on the underside of which there are contacts 141a, 143a, corresponding to socket's power supply contact sheets 241, 243 respectively.

[0041] When the plug 140 and the socket 240 are interconnected, see Fig. 12, the receiving plug pillars 141, 143 of the plug through power supply contacts 141a, 143a of plug touch the power supply contact sheets 241, 243 of the socket respectively, the plug's center plug pillar 142 touches with the center receiving pillar 242; at this time, the ring bulgy wall 144 of socket 140 inserts into the ring groove of the socket 240, the insulating sheet 344 slides down under the action of the ring groove wall's 144 end, pressing the bacilliform movable contact sheets 341, 343, raising the movable contact under the action of the lever until movable contacts 341a, 343a touch immovable contacts 241a, 243a respectively.

[0042] In the above example, the isolating sliding sheet 344 under the action of its both sides acts on two power supply contact sheets 341, 343 at the same time, however, in practical application, it can act on one of the power supply contact sheets only through one side, and an-

other power supply contact is connected directly with its corresponding line of the power supply.

[0043] According to example 6, as shown in Figs 14, 15, in the center of the socket's 250 upper face there is a plughole and two ring grooves being concentric with the plughole, inside the plughole is a center power supply contact sheet 252, on the tortuous end underside extended outwards there is a immovable contact 252a; inside the external ring groove there is a power supply contact sheet 251, with an underside downwards end; inside the internal ring groove there is a power supply contact sheet 253, and on the underside outstretched and tortuous end there is a immovable contact 253a.

[0044] On the underside of the socket 250 there are one immovable power supply contact sheet 351 and two power supply contact sheets 352, 353 in the movable contact sheet form, which correspond to power supply contact sheet 251, 252, 253 respectively; the power supply contact sheet 351 is connected with the underside outstretched end of the power supply contact sheet 251 all the time and the ground wire of the power supply; the power supply contacts 352, 353 are connected with the live wire and the zero line of electric line respectively, they are set in parallel with one above another, with respective movable contacts 352a, 353a set in their up-sides, and opposite to immovable contacts 252a, 253a respectively.

[0045] On the plug 150, there is a bulgy ring wall 154 that can be plugged into the socket's 250 ring groove, and in the center of which there is a receiving plug pillar 152, corresponding to socket's power supply pillar 252; on both sides of which there is a V-type receiving contact sheet 151 and a receiving plug pillar 153, corresponding to socket's power supply contact sheets 251, 253 respectively.

[0046] A cuneiform insulating sheet 354 holds the movable contact end of the power supply contacts 352, 353 on its slope, and its inside is held by a reset spring 355, forming an outward horizontal moving trend.

[0047] When the plug 150 and the socket 250 are interconnected, see Fig. 15, the receiving contact sheet 151 and the receiving plug pillars 152, 153 of the plug touch the power supply contacts 251, 252, 253 of the socket respectively; at this moment, the cuneiform insulating sheet 354 under the action of plug's ring external wall 155 moves down inwards laterally and pushes movable contacts 352, 353 on the slope upwards until movable contacts 352a, 353a touch immovable contacts 252a, 253a.

[0048] In the above example, the cuneiform insulating sheet 354 via its slope under the action of its two sides acts on both power supply contact sheets 352, 353 at the same time, however, in practical application, it can act one of the power supply contact sheets only through one side, and another power supply contact is connected directly with its corresponding line of the power supply.

Claims

1. An electrical connector for a cordless electrical appliance comprising a plug (100, 110, 120, 130, 140) and a socket (200, 210, 220, 230, 240) that are interconnectable and relatively rotatable; the center of the socket's upper face having a plughole with at least one ring groove being concentric with the plughole, with power supply terminal lugs inside the plughole and the at least one ring groove respectively, correspondingly, the plug being provided with receiving center terminal lugs and periphery terminal lugs that are engageable with the power supply terminal lugs inside the center plughole and the at least one ring groove of the socket respectively, the socket further comprising:

at least one power supply contact sheet (301, 303, 311, 313, 321, 323, 331, 333, 341, 343) connected with a live wire or a zero line of a power supply corresponding to said power supply terminal lugs (201, 203, 211, 213, 221, 223, 231, 233, 241, 243) inside said at least one concentric ring groove and at least one contact switching mechanism, which keeps the contacts between the power supply contact sheet and the corresponding receiving terminal lugs normally opened when the plug (100) is not inserted into the socket (200), and causes the normally opened contact pair to close and to be electrified under the action of the plug when the plug is inserted into the socket and said corresponding receiving periphery terminal lug of the plug (101, 103, 111, 113, 121, 123, 131, 133, 141, 143) being either a plug pillar or a contact sheet; and correspondingly the power supply terminal lug of the socket being a receiving pillar or a contact sheet; **characterised in that**

the receiving center terminal lug of the plug is a plug pillar (102, 112, 122, 132, 142), the corresponding power supply terminal lug (202, 212, 222, 232, 242) inside the center plughole of the socket is engaged with the ground wire of the power supply and the contact switching mechanism is driven by the power supply terminal lug inside the center plughole of the socket (200).

2. An electrical connector for a cordless electrical appliance of claim 1, wherein the contact switching mechanism comprises a horizontal insulating pushrod (304) and under the pushrod a the power supply contact sheet (303) set in the same direction as the pushrod (304); the center of the isolating pushrod (304) is connected with the root of the socket's center receiving pillar (202); at the end of the push rod there is a warp with an inclined outside plane contacting a corresponding parallel slope of the power supply contact sheet (301, 303); on the power supply con-

tact sheet (301, 303) there is a movable contact (301a, 303a), corresponding to an immovable contact (201a, 203a) under the outside of the socket's power supply contact sheet (201, 203) of the at least one concentric ring groove, and wherein, when the isolating pushrod (304) is moving down, i.e. under the action of the slope, the power supply contact sheet (301, 303) moves towards the immovable contact (201a, 203a) until the movable contact (301 a, 303a) touches the immovable contact (201a, 203a).

3. An electrical connector for a cordless electrical appliance of claim 1, wherein the contact switching mechanism comprises an insulating block (314), whose cross-section is of an inverted T-type, and a vertical movable contact sheet (311, 313), the isolating block's upper face is connected with the root of the socket's center receiving pillar (212), whose underside is propped by a reset spring (315); provided on the vertical movable contact sheet (311, 313) there is a movable contact (311a, 313a) connected with a live wire or a zero line; which moveable contact corresponding to an immovable contact (211a, 213a) under the outside of the socket's power supply contact sheet (211, 213) of the at least one concentric ring groove, and wherein, when the inverted T-type insulating block (314) is moving down, the vertical movable contact sheet (311, 313) inclines outwards towards the immovable contact (211a, 213a) until the movable contact (311a, 313a) touches the immovable contact.

4. An electrical connector for a cordless electrical appliance of claim 1, wherein the contact switching mechanism comprises a horizontal insulating pushrod (324), whose central section is connected with the root of the socket's center receiving pillar (222), on the both sides of the insulating pushrod (324) there is a moveable contact (321a, 323a) connected with a live wire or a zero wire respectively, correspondingly the lower end of the power supply contact sheet (221, 223) inside the socket's at least one concentric ring groove is bent under the movable contact (321a, 323a) to provide an immovable contact (221a, 223a) right opposite to the movable contact (321a, 323a); and wherein, when the isolating pushrod (324) is moving down, the movable contact (321a, 323a) moves with it until touches the immovable contact (221a, 223a).

5. An electrical connector for a cordless electrical appliance of claim 1, wherein the contact switching mechanism comprising an isolating lever (334) and a movable contact sheet (321, 323), one end of the moveable contact sheet (331, 333) being fixed to the socket's shell, and on another end of the moveable contact sheet there being a movable contact (331a, 333a), which is correspondingly set up under the

warped end of the socket's power supply contact sheet (231, 233) of the at least one concentric ring groove to provide an immovable contact (231a, 233a) on the warp right opposite to the movable contact (331a, 333a); and one end of the insulating lever (334) being connected with the root of the socket's center receiving pillar (232), another end of the lever (324) being under the end of the movable contact sheet (331, 333) on which the moveable contact is located and wherein, when the socket's center receiving pillar (232) is moving down, the isolating lever turns, raising the movable contact (331 a, 333a) of the movable contact sheet (331, 333) until the movable contact (331a, 333a) touches the immovable contact (231a, 233a).

6. An electrical connector for a cordless electrical appliance of claim 1, wherein the contact switching mechanism comprises an isolating sliding sheet (334) and a movable contact sheet (341, 343), one end of the movable contact sheet (341, 343) being fixed to the socket's shell, and on another side of the moveable contact sheet there being a movable contact (341a, 343a), a central section of the moveable contact sheet being held by a pivot, which is correspondingly set up under a warped end of the socket's power supply contact sheet (241, 243) of the at least one concentric ring groove so that an immovable contact (241a, 243a) on the warp is right opposite to the movable contact (341a, 343a); the isolating sliding sheet (344) being set up on the root of the socket's at least one concentric ring groove so as to be able to slip up and down, the underside of the sliding sheet (344) being pressed against the part of movable contact sheet near the fixed end, wherein when the insulating sliding sheet (344) is moving down, the sheet presses the movable contact sheet down under the action of the sheet raising the movable contact (341a, 343a) until it touches the immovable contact (241a, 243a).

7. An electrical connector for a cordless electrical appliance of claim 1, wherein there is only one concentric ring groove in the socket, with a ring power supply contact inside (203) and outside (201) it respectively; correspondingly, the socket's receiving periphery terminal lug is also a contact sheet, and corresponding to the socket's ring groove's inside receiving contact sheet there is a bulgy contact (103a) inside it, and corresponding to the socket's ring groove's outside receiving contact sheet there is a bulgy contact (101a).

8. An electrical connector for a cordless electrical appliance of claim 1, wherein the socket comprises two concentric ring grooves therein, with a power supply contact sheet outside them respectively; correspondingly, the receiving periphery terminal lug in

the plug is a contact sheet, and on one side of the corresponding ring groove there is a bulg contact.

9. An electrical connector for a cordless electrical appliance of claim 1, wherein the socket comprises two concentric ring grooves therein, with a power supply contact sheet (221, 223) on the bottom of each ring groove respectively; correspondingly, the receiving periphery terminal lug on the plug is a plug pillar (121, 123). 5 10
10. An electrical connector for a cordless electrical appliance comprising a plug (150) and a socket (250) that are interconnectable and relatively rotatable; the center of the socket's upper face having a plughole with at least one ring groove being concentric with the plughole, with power supply terminal lugs inside the plughole and the at least one ring groove respectively, correspondingly, the plug being provided with receiving center terminal lugs and periphery terminal lugs that are engageable with the power supply terminal lugs inside the center plughole and the at least one ring groove of the socket respectively, the socket's center plughole's power supply contact sheet (352) correspond to the live wire or zero line of power supply, and one of the power supply contact sheet (253) inside the ring groove is connected with the ground wire of the power supply; wherein the socket further includes at least one contact switching mechanism which keeps the contacts between the power supply contact sheet (352) and the corresponding receiving terminal lugs (252) normally opened when the plug is not inserted into the socket, and causes the normally opened contact pair to close and to be electrified under the action of the plug when the plug is inserted into the socket; said contact switching mechanism comprising a cuneiform isolating block (354) and a moveable contact base (352, 353) on its slope; **characterised in that** the cuneiform isolating block's inside is held by a reset spring (355), causing it to tend to move outside a breadthwise; provided on the moveable contact base (352, 353) there being a moveable contact (352a, 353a) connected with a live wire or a zero line of the power supply corresponding to an immoveable contact (252a, 253) inside the socket's bottom of power supply contact sheet; and wherein, when the cuneiform isolating block (354) moves inward breadthwise the moveable contact base (352, 353) on the slope moves upwards until the moveable contact (352a, 353a) touches the immoveable contact (252a, 253a). 15 20 25 30 35 40 45 50

Patentansprüche

1. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung, umfassend:

einen Stecker (100, 110, 120, 130, 140) und eine Steckdose (200, 210, 220, 230, 240), die miteinander verbindbar und relativ drehbar sind, während die Mitte der oberen Fläche der Steckdose ein Steckerloch mit mindestens einer Ringnut aufweist, die konzentrisch mit dem Steckerloch ist, während Energieversorgungskabelschuhe innerhalb des Steckerlochs sowie der mindestens einen Ringnut entsprechend vorhanden sind, und der Stecker ist bereitgestellt mit mittigen Aufnahmekabelschuhen und umfänglichen Kabelschuhen, die mit den Energieversorgungskabelschuhen innerhalb der Mitte des Steckerlochs und der mindestens einen Ringnut der Steckdose entsprechend in Eingriff bringbar sind, während die Steckdose weiterhin umfasst

mindestens ein Energieversorgungskontaktblech (301, 303, 311, 313, 321, 323, 331, 333, 341, 343), das mit einem stromführenden Draht oder einem Nullleiter einer Energieversorgung entsprechend den Energieversorgungskabelschuhen (201, 203, 211, 213, 221, 223, 231, 233, 241, 243) innerhalb der mindestens einen konzentrischen Ringnut verbunden ist, sowie mindestens einen Kontaktumschaltmechanismus, der die Kontakte zwischen dem Energieversorgungskontaktblech und den entsprechenden Aufnahmekabelschuhen üblicherweise offen hält, wenn der Stecker (100) nicht in die Steckdose (200) eingesetzt ist und bewirkt, dass sich das üblicherweise geöffnete Kontaktpaar schließt und unter Betätigung des Steckers elektrisch verbunden wird, wenn der Stecker in die Steckdose eingesetzt wird, und der entsprechende umfängliche Aufnahmekabelschuh des Steckers (101, 103, 111, 113, 121, 123, 131, 133, 141, 143) ist entweder ein Steckerstift oder ein Kontaktblech, während die Energieversorgungskabelschuhe der Steckdose entsprechend ein Aufnahmestift oder ein Kontaktblech sind, **dadurch gekennzeichnet, dass** der mittige Aufnahmekabelschuh des Steckers ein Steckerstift (102, 112, 122, 132, 142) ist, während der entsprechende Energieversorgungskabelschuh (202, 212, 222, 232, 242) innerhalb des mittigen Steckerlochs der Steckdose in Eingriff mit dem Erdungsdraht der Energieversorgung steht und der Kontaktumschaltmechanismus durch den Energieversorgungskabelschuh innerhalb des mittigen Steckerlochs der Steckdose (200) versorgt wird.

2. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem der Kontaktumschaltmechanismus umfasst: eine horizontale Isolierstößelstange (304), während unter der Stößelstange das Energieversorgungskontaktblech

- (303) in derselben Richtung wie die Stößelstange (304) angeordnet ist, wobei die Mitte der Isolierstößelstange (304) mit dem Boden des mittigen Aufnahmestifts (202) der Steckdose verbunden ist, während am Ende der Stößelstange ein Überwurf mit einer geneigten äußeren Ebene angeordnet ist, die eine entsprechende parallele Schräge des Energieversorgungskontaktblechs (301, 303) kontaktiert, wobei auf dem Energieversorgungskontaktblech (301, 303) ein bewegbarer Kontakt (301a, 303a) angeordnet ist, der einem unbewegbaren Kontakt (201a, 203a) unter der Außenseite des Energieversorgungskontaktblechs (201, 203) der Steckdose der mindestens einen konzentrischen Ringnut entspricht, und in dem, wenn die Isolierstößelstange (304) sich abwärts bewegt, beispielsweise durch die Wirkung der Schräge, sich das Energieversorgungskontaktblech (301, 303) in Richtung des unbewegbaren Kontakts (201a, 203a) bewegt, bis der bewegbare Kontakt (301a, 303a) den unbewegbaren Kontakt (201a, 203a) berührt.
3. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem der Kontaktumschaltmechanismus umfasst: einen Isolierblock (314), dessen Querschnitt umgedreht T-förmig ist, sowie ein vertikal bewegbares Kontaktblech (311, 313), wobei die obere Fläche des Isolierblocks mit dem Boden des mittigen Aufnahmestifts (212) der Steckdose verbunden ist, dessen Unterseite durch eine Rückstellfeder (315) gestützt wird, während auf dem vertikal bewegbaren Kontaktblech (311, 313) ein bewegbarer Kontakt (311a, 313a) bereitgestellt ist, der mit einem stromführenden Draht oder einem Nullleiter verbunden ist, wobei der bewegbare Kontakt einem unbewegbaren Kontakt (211a, 213a) unter der Außenseite des Energieversorgungskontaktblechs (211, 213) der Steckdose der mindestens einen konzentrischen Ringnut entspricht, und in dem, wenn der umgedreht T-förmige Isolierblock (314) sich nach unten bewegt, sich das vertikal bewegbare Kontaktblech (311, 313) auswärts in Richtung des unbewegbaren Kontakts (211a, 213a) neigt, bis der bewegbare Kontakt (311a, 313a) den unbewegbaren Kontakt berührt.
4. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem der Kontaktumschaltmechanismus umfasst: eine horizontale Stößelstange (324), deren mittiger Bereich mit dem Boden des mittigen Aufnahmestifts (222) der Steckdose verbunden ist, während auf beiden Seiten der Isolierstößelstange (324) ein bewegbarer Kontakt (321a, 323a) vorhanden ist, der mit einem stromführenden Draht oder einem Nullleiter entsprechend verbunden ist, dementsprechend ist das untere Ende des Energieversorgungskontaktblechs (221, 223) innerhalb der mindestens einen konzentrischen Ringnut der Steckdose unter den bewegbaren Kontakt (321a, 323a) gebogen, um einen unbewegbaren Kontakt (221a, 223a) genau entgegengesetzt zu dem bewegbaren Kontakt (321a, 323a) bereitzustellen, und in dem, wenn die Isolierstößelstange (324) sich nach unten bewegt, sich der bewegbare Kontakt (321a, 323a) mit ihr bewegt, bis er den unbewegbaren Kontakt (221a, 223a) berührt.
5. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem der Kontaktumschaltmechanismus umfasst: einen Isolierhebel (334) und ein bewegbares Kontaktblech (321, 323), während ein Ende des bewegbaren Kontaktblechs (331, 333) an der Steckdosenhülle befestigt ist und ein anderes Ende des bewegbaren Kontaktblechs einen bewegbaren Kontakt (331a, 333a) aufweist, der entsprechend unter dem umhüllten Ende des Steckdosenenergieversorgungskontaktblechs (231, 233) der mindestens einen konzentrischen Ringnut aufgesetzt ist, um einen unbewegbaren Kontakt (231a, 233a) auf der Hülle genau gegenüber dem bewegbaren Kontakt (331a, 333a) bereitzustellen, während ein Ende des Isolierhebels (334) mit dem Boden des mittigen Aufnahmestifts (232) der Steckdose verbunden ist, wobei ein anderes Ende des Hebels (324) sich unter dem Ende des bewegbaren Kontaktblechs (331, 333) angeordnet ist, auf dem der bewegbare Kontakt angeordnet ist, und in dem, wenn der mittige Aufnahmestift (232) der Steckdose sich nach unten bewegt, der Isolierhebel umschlägt und den bewegbaren Kontakt (331a, 333a) des bewegbaren Kontaktblechs (331, 333) anhebt, bis der bewegbare Kontakt (331a, 333a) den unbewegbaren Kontakt (231a, 233a) berührt.
6. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem der Kontaktumschaltmechanismus umfasst ein Isoliergleitblech (344) und ein bewegbares Kontaktblech (341, 343), während ein Ende des bewegbaren Kontaktblechs (341, 343) an der Steckdosenhülle befestigt ist und eine andere Seite des bewegbaren Kontaktblechs einen bewegbaren Kontakt (341a, 343a) aufweist, wobei ein mittiger Bereich des bewegbaren Kontaktblechs durch einen Schwenkzapfen gehalten wird, der entsprechend unter einem umhüllten Ende des Energieversorgungskontaktblechs (241, 243) der Steckdose der mindestens einen konzentrischen Ringnut aufgesetzt ist, so dass ein unbewegbarer Kontakt (241a, 243a) auf der Hülle genau entgegengesetzt zu dem bewegbaren Kontakt (341a, 343a) angeordnet ist, während das Isoliergleitblech (344) auf dem Boden der mindestens einen konzentrischen Ringnut der Steckdose aufgesetzt ist, um in der Lage zu sein, nach oben und unten zu rutschen, wobei die Unterseite des Gleit-

blechs (344) gegen den Teil des bewegbaren Kontaktblechs in der Nähe des befestigten Endes gedrückt wird, und in dem, wenn das Isoliergleitblech (344) sich nach unten bewegt, das Blech das bewegbare Kontaktblech unter der Betätigung des Blechs, das den bewegbaren Kontakt (341a, 343a) anhebt, herunterdrückt, bis es den unbewegbaren Kontakt (241a, 243a) berührt.

7. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, der lediglich eine konzentrische Ringnut in der Steckdose mit entsprechend einer Ringenergieversorgungskontaktinnenseite (203) und -außenseite (201) aufweist, während der Aufnahmekabelschuh der Steckdose ebenso ein Kontaktblech entsprechend aufweist und entsprechend dem inneren Aufnahmekontaktblech der Ringnut der Steckdose weist er einen gewölbten Kontakt (103a) innerhalb von ihm auf und entsprechend der Außenseite des Aufnahmekontaktblechs der Ringnut der Steckdose weist er einen gewölbten Kontakt (101a) auf. 10
8. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem die Steckdose umfasst: zwei konzentrische Ringnute darin, mit einem Energieversorgungskontaktblech entsprechend außerhalb von diesen, während der umfängliche Aufnahmekabelschuh in dem Stecker ein Kontaktblech aufweist und auf einer Seite der entsprechenden Ringnut ist ein gewölbter Kontakt angeordnet. 15
9. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung gemäß Anspruch 1, in dem die Steckdose umfasst: zwei konzentrische Ringnute darin, mit einem Energieversorgungskontaktblech (221, 223) entsprechend auf dem Boden jeder Ringnut, während der umfängliche Aufnahmekabelschuh in dem Stecker einen Steckerstift (121, 123) umfasst. 20
10. Ein elektrischer Verbinder für eine drahtlose elektrische Anwendung, umfassend einen Stecker (150) und eine Steckdose (250), die miteinander verbindbar und relativ drehbar sind, während die Mitte der oberen Seite der Steckdose ein Steckerloch mit mindestens einer Ringnut aufweist, die konzentrisch mit dem Steckerloch ist, während Energieversorgungskabelschuhe innerhalb des Steckerlochs und der mindestens einen Ringnut entsprechend vorhanden sind, während der Stecker mit mittigen Aufnahmekabelschuhen und umfänglichen Kabelschuhen bereitgestellt ist, die mit den Energieversorgungskabelschuhen innerhalb des mittigen Steckerlochs und der mindestens einen Ringnut der Steckdose entsprechend in Eingriff bringbar sind, 25

das Energieversorgungskontaktblech (352) des mittigen Steckerlochs der Steckdose entspricht dem

stromführenden Draht oder Nullleiter einer Energieversorgung und eines der Energieversorgungskontaktbleche (253) innerhalb der Ringnut ist mit dem Erdungsdraht der Stromversorgung verbunden, während die Steckdose weiterhin umfasst: mindestens einen Kontaktumschaltmechanismus, der die Kontakte zwischen dem Energieversorgungskontaktblech (352) und den entsprechenden Aufnahmekabelschuhen (252) üblicherweise offen hält, wenn der Stecker nicht in die Steckdose eingesetzt ist und bewirkt, dass das üblicherweise geöffnete Kontaktpaar schließt und unter der Betätigung des Steckers elektrisch verbunden wird, wenn der Stecker in die Steckdose eingesetzt ist, während der Kontaktumschaltmechanismus umfasst: einen keilförmigen Isolierblock (354) und einen bewegbaren Kontaktboden (352, 353) auf seiner Schräge, **dadurch gekennzeichnet, dass** die keilförmige Isolierblockinnenseite durch eine Rückstellfeder (355) gehalten ist, die bewirkt, dass er dazu tendiert, sich breitenmäßig nach außen zu bewegen, während auf dem bewegbaren Kontaktboden (352, 353) ein bewegbarer Kontakt (352a, 353a) bereitgestellt ist, der mit einem stromführenden Draht oder einem Nullleiter der Energieversorgung verbunden ist, der einem unbewegbaren Kontakt (252a, 253a) innerhalb des Steckdosenbodens des Energieversorgungskontaktblechs entspricht, und in dem, wenn sich der keilförmige Isolierblock (354) breitenmäßig einwärts bewegt, sich der bewegbare Kontaktboden (352, 353) auf der Schräge aufwärts bewegt, bis der bewegbare Kontakt (352a, 353a) den unbewegbaren Kontakt (252a, 253a) berührt. 30

Revendications

1. Connecteur électrique pour un appareil électrique sans fil comprenant une fiche (100, 110, 120, 130, 140) et une embase (200, 210, 220, 230, 240) qui peuvent être interconnectées et qui sont capables de tourner de manière relative; le centre de la face supérieure de l'embase comportant un trou de fiche avec au moins une gorge annulaire concentrique avec le trou de fiche, avec des languettes terminales d'alimentation à l'intérieur du trou de fiche et de ladite au moins une gorge annulaire respectivement, de manière correspondante, la fiche étant pourvue de languettes terminales centrales et de languettes terminales périphériques de réception qui peuvent être mises en prise avec les languettes terminales d'alimentation à l'intérieur du trou de fiche central et de ladite au moins une gorge annulaire de l'embase respectivement, l'embase comprenant en outre : 35

au moins une feuille de contact d'alimentation (301, 303, 311, 313, 321, 323, 331, 333, 341, 343) connectée à un fil sous tension ou une ligne

de potentiel nul d'une alimentation correspondant auxdites languettes terminales d'alimentation (201, 203, 211, 213, 221, 223, 231, 233, 241, 243) à l'intérieur de ladite au moins une gorge annulaire concentrique et à au moins un mécanisme de commutation de contact, qui maintient les contacts entre la feuille de contact d'alimentation et les languettes terminales de réception correspondantes normalement ouverts lorsque la fiche (100) n'est pas insérée dans l'embase (200), et amène la paire de contacts normalement ouverts à se fermer et à être sous tension sous l'action de la fiche lorsque la fiche est insérée dans l'embase et ladite languette terminale périphérique de réception correspondante de la fiche (101, 103, 111, 113, 121, 123, 131, 133, 141, 143) étant une colonne de fiche ou une feuille de contact, et ladite languette terminale d'alimentation de l'embase étant de manière correspondante une colonne de réception ou une feuille de contact ;

caractérisé en ce que

la languette terminale centrale de réception de la fiche est une colonne de fiche (102, 112, 122, 132, 142), la languette terminale d'alimentation (202, 212, 222, 232, 242) correspondante à l'intérieur du trou de fiche central de l'embase est mise en prise avec le fil de masse de l'alimentation et le mécanisme de commutation de contact est entraîné par la languette terminale d'alimentation à l'intérieur du trou de fiche central de l'embase (200).

2. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel le mécanisme de commutation de contact comprend une tige-poussoir isolante (304) horizontale et, sous la tige-poussoir, la feuille de contact d'alimentation (303) placée dans la même direction que la tige-poussoir (304) ; le centre de la tige-poussoir isolante (304) est connecté à la base de la colonne de réception centrale (202) de l'embase ; à l'extrémité de la tige-poussoir, il y a une courbure avec un plan extérieur incliné en contact avec une pente parallèle correspondante de la feuille de contact d'alimentation (301, 303) ; sur la feuille de contact d'alimentation (301, 303), il y a un contact mobile (301a, 303a), correspondant à un contact immobile (201a, 203a) sous l'extérieur de la feuille de contact d'alimentation (201, 203) de ladite au moins une gorge annulaire concentrique de l'embase, et dans lequel, lorsque la tige-poussoir isolante (304) se déplace vers le bas, c'est-à-dire, sous l'action de la pente, la feuille de contact d'alimentation (301, 303) se déplace vers le contact immobile (201a, 203a) jusqu'à ce que le contact mobile (301a, 303a) touche le contact immobile (201a, 203a).

3. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel le mécanisme de commutation de contact comprend un bloc isolant (314), dont la section a la forme d'un T inversé, et une feuille de contact mobile (311, 313) verticale, la face supérieure du bloc isolant est connectée à la base de la colonne de réception centrale (212) de l'embase, dont la face de dessous est maintenue par un ressort de rappel (315) ; sur la feuille de contact mobile (311, 313) verticale, un contact mobile (311a, 313a) connecté à un fil sous tension ou une ligne de potentiel nul est prévu ; lequel contact mobile correspond à un contact immobile (211a, 213a) sous l'extérieur de la feuille de contact d'alimentation (211, 213) de ladite au moins une gorge annulaire concentrique de l'embase, et dans lequel, lorsque le bloc isolant en forme de T inversé (314) se déplace vers le bas, la feuille de contact mobile (311, 313) verticale s'incline vers l'extérieur vers le contact immobile (211a, 213a) jusqu'à ce que le contact mobile (311a, 313a) touche le contact immobile.

4. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel le mécanisme de commutation de contact comprend une tige-poussoir isolante (324) horizontale, dont la section centrale est reliée à la base de la colonne de réception centrale (222) de l'embase, des deux côtés de la tige-poussoir isolante (324), il y a un contact mobile (321a, 323a) connecté à un fil sous tension ou un fil de potentiel nul respectivement, de manière correspondante l'extrémité inférieure de la feuille de contact d'alimentation (221, 223) à l'intérieur de ladite au moins une gorge annulaire concentrique de l'embase est pliée sous le contact mobile (321a, 323a) pour réaliser un contact immobile (221a, 223a) juste face au contact mobile (321a, 323a) ; et dans lequel, lorsque la tige-poussoir isolante (324) se déplace vers le bas, le contact mobile (321a, 323a) se déplace avec celle-ci jusqu'à ce qu'il touche le contact immobile (221a, 223a).

5. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel le mécanisme de commutation de contact comprend un levier isolant (334) et une feuille de contact mobile (321, 323), une extrémité de la feuille de contact mobile (331, 333) étant fixée à l'enveloppe de l'embase, et sur l'autre extrémité de la feuille de contact mobile, il y a un contact mobile (331a, 333a), qui est, de manière correspondante, placé sous l'extrémité courbée de la feuille de contact d'alimentation (231, 233) de ladite au moins une gorge annulaire concentrique de l'embase pour réaliser un contact immobile (231a, 233a) sur la courbure juste face au contact mobile (331a, 333a) ; et une extrémité du levier isolant (334) est reliée à la base de la colonne de réception centrale (232) de l'embase, une autre

extrémité du levier (324) étant sous l'extrémité de la feuille de contact mobile (331, 333) sur laquelle le contact mobile est situé, et dans lequel, lorsque la colonne de réception centrale (232) de l'embase se déplace vers le bas, le levier isolant tourné, élevant le contact mobile (331a, 333a) de la feuille de contact mobile (331, 333) jusqu'à ce que le contact mobile (331a, 333a) touche le contact immobile (231a, 233a).

6. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel le mécanisme de commutation de contact comprend une feuille coulissante isolante (344) et une feuille de contact mobile (341, 343), une extrémité de la feuille de contact mobile (341, 343) étant fixée à l'enveloppe de l'embase, et sur un autre côté de la feuille de contact mobile, il y a un contact mobile (341a, 343a), une section centrale de la feuille de contact mobile étant maintenue par un pivot, qui est placé de manière correspondante sous une extrémité courbée de la feuille de contact d'alimentation (241, 243) de ladite au moins une gorge annulaire concentrique de l'embase de sorte qu'un contact immobile (241a, 243a) sur la courbure soit juste face au contact mobile (341a, 343a) ; la feuille coulissante isolante (344) étant placée sur la base de ladite au moins une gorge annulaire concentrique de l'embase de manière à être capable de glisser vers le haut et vers le bas, la face de dessous de la feuille coulissante (344) étant pressée contre la partie de la feuille de contact mobile à proximité de l'extrémité fixe, dans lequel, lorsque la feuille coulissante isolante (344) se déplace vers le bas, la feuille presse la feuille de contact mobile vers le bas sous l'action de la feuille, élevant le contact mobile (341a, 343a) jusqu'à ce qu'il touche le contact immobile (241a, 243a).
7. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel il n'y a qu'une seule gorge annulaire concentrique dans l'embase, avec un contact d'alimentation annulaire à l'intérieur (203) et à l'extérieur (201) de celle-ci respectivement ; de manière correspondante, la languette terminale périphérique de réception de l'embase est également une feuille de contact, et correspondant à la feuille de contact de réception intérieure de la gorge annulaire de l'embase, il y a un contact bombé (103a) à l'intérieur de celle-ci, et correspondant à la feuille de contact de réception extérieure de la gorge annulaire de l'embase, il y a un contact bombé (101a).
8. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel l'embase comprend deux gorges annulaires concentriques dans celle-ci, avec une feuille de contact d'alimentation à l'extérieur de celles-ci respectivement ;

de manière correspondante, la languette terminale périphérique de réception dans la fiche est une feuille de contact, et d'un côté de la gorge annulaire correspondante, il y a un contact bombé.

9. Connecteur électrique pour un appareil électrique sans fil selon la revendication 1, dans lequel l'embase comprend deux gorges annulaires concentriques dans celle-ci, avec une feuille de contact d'alimentation (221, 223) sur le fond de chaque gorge annulaire respectivement ; de manière correspondante, la languette terminale périphérique de réception sur la fiche est une colonne de fiche (121, 123).
10. Connecteur électrique pour un appareil électrique sans fil, comprenant une fiche (150) et une embase (250) qui peuvent être interconnectées et qui peuvent tourner de manière relative ; le centre de la face supérieure de l'embase comportant un trou de fiche avec au moins une gorge annulaire concentrique avec le trou de fiche, avec des languettes terminales d'alimentation à l'intérieur du trou de fiche et de ladite au moins une gorge annulaire respectivement ; de manière correspondante, la fiche étant pourvue de languettes terminales centrales et de languettes terminales périphériques de réception qui peuvent être mises en prise avec les languettes terminales d'alimentation à l'intérieur du trou de fiche central et de ladite au moins une gorge annulaire de l'embase respectivement, la feuille de contact d'alimentation (352) du trou de fiche central de l'embase correspond au fil sous tension ou à la ligne de potentiel nul de l'alimentation, et la feuille de contact d'alimentation (253) à l'intérieur de la gorge annulaire est connectée au fil de masse de l'alimentation ; dans lequel l'embase comprend en outre au moins un mécanisme de commutation de contact qui maintient les contacts entre la feuille de contact d'alimentation (352) et les languettes terminales de réception (252) correspondantes normalement ouverts lorsque la fiche n'est pas insérée dans l'embase, et amène la paire de contacts normalement ouverts à se fermer et à être sous tension sous l'action de la fiche lorsque la fiche est insérée dans l'embase ; ledit mécanisme de commutation de contact comprenant un bloc isolant (354) cunéiforme et une base de contact mobile (352, 353) sur sa pente ; **caractérisé en ce que** l'intérieur du bloc isolant cunéiforme est maintenu par un ressort de rappel (355), l'amenant à se déplacer vers l'extérieur dans le sens de la largeur ; prévu sur la base de contact mobile (352, 353), il y a un contact mobile (352a, 353a) connecté à un fil sous tension ou une ligne de potentiel nul de l'alimentation correspondant à un contact immobile (252a, 253a) à l'intérieur du fond de la feuille de contact d'alimentation de l'embase ; et dans lequel, lorsque le bloc isolant (354) cunéiforme se déplace vers

l'intérieur dans le sens de la largeur, la base de contact mobile (352, 353) sur la pente se déplace vers le haut jusqu'à ce que le contact mobile (352a, 353a) touche le contact immobile (252a, 253a).

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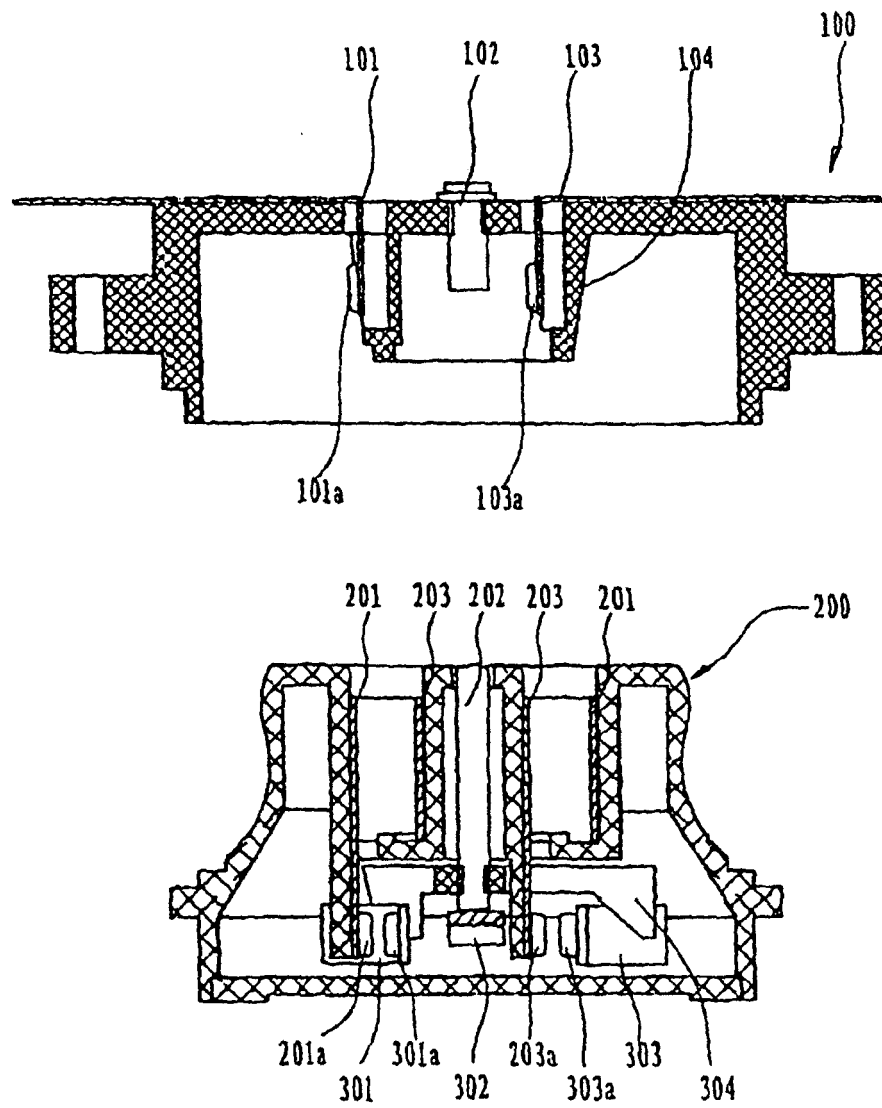


FIG. 1

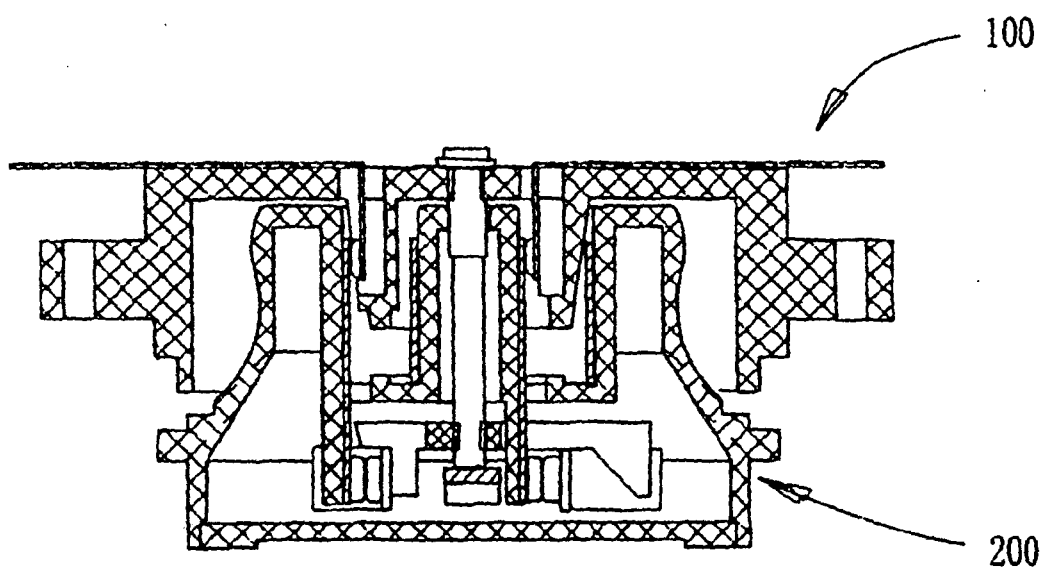


FIG. 2

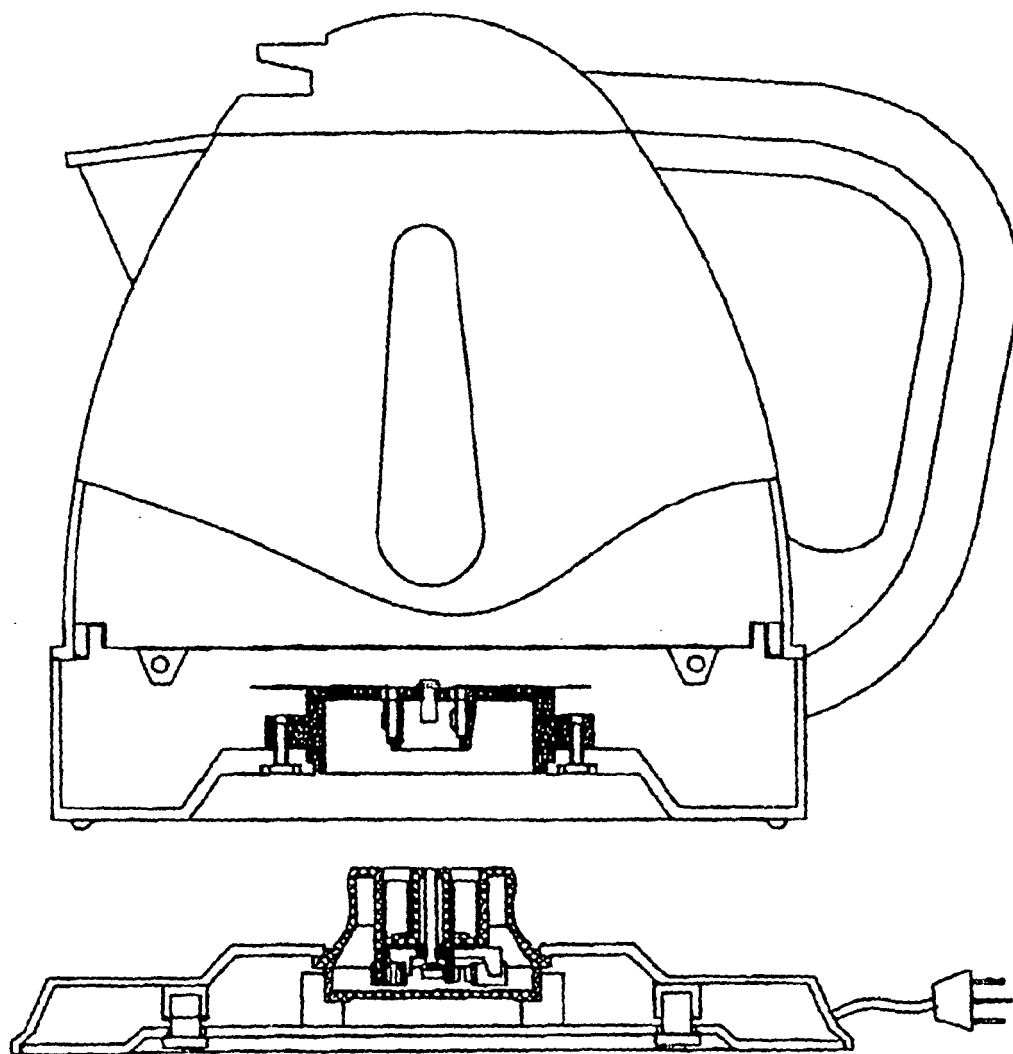


FIG. 3

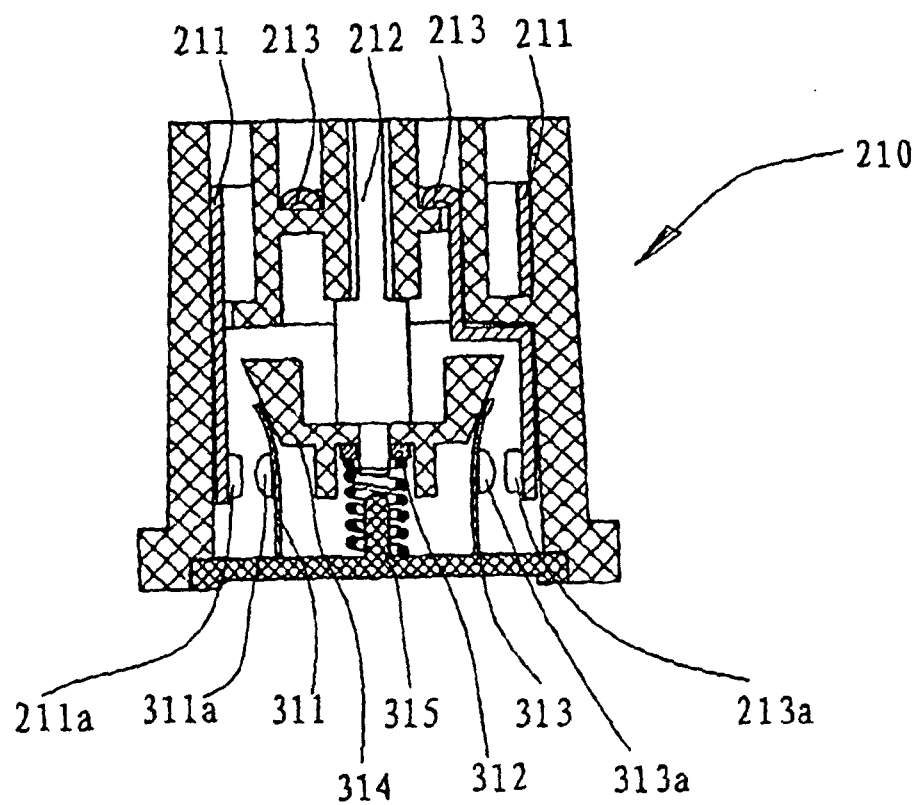
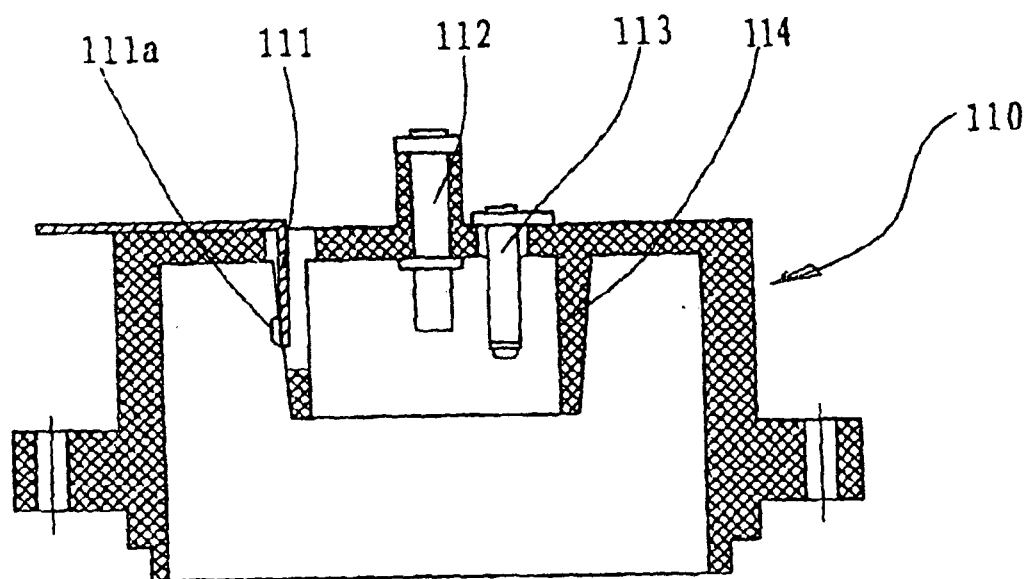


FIG. 4

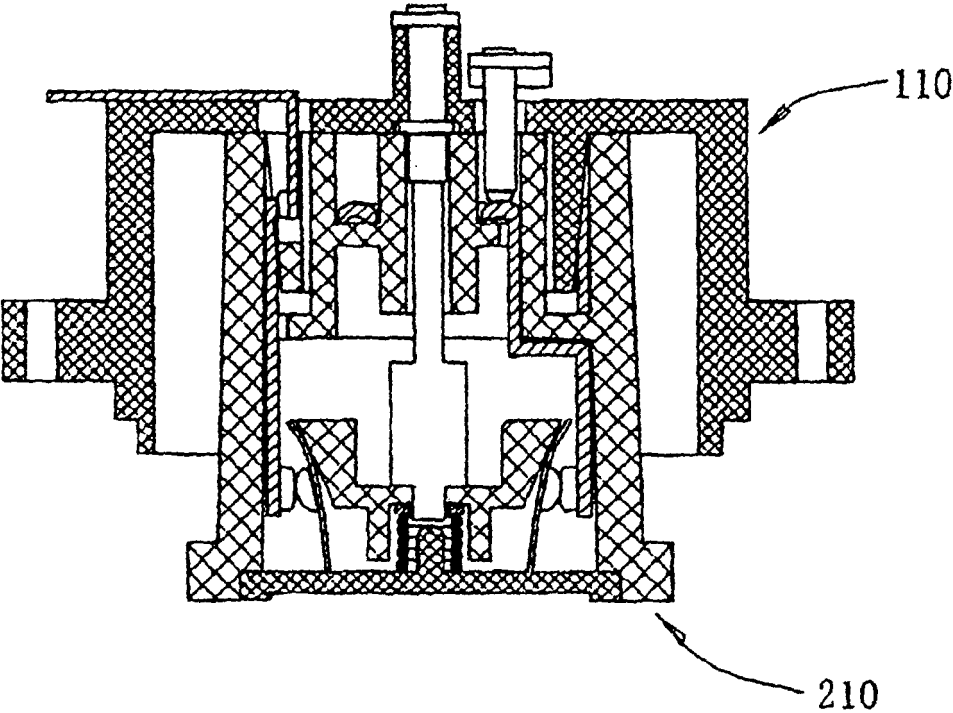
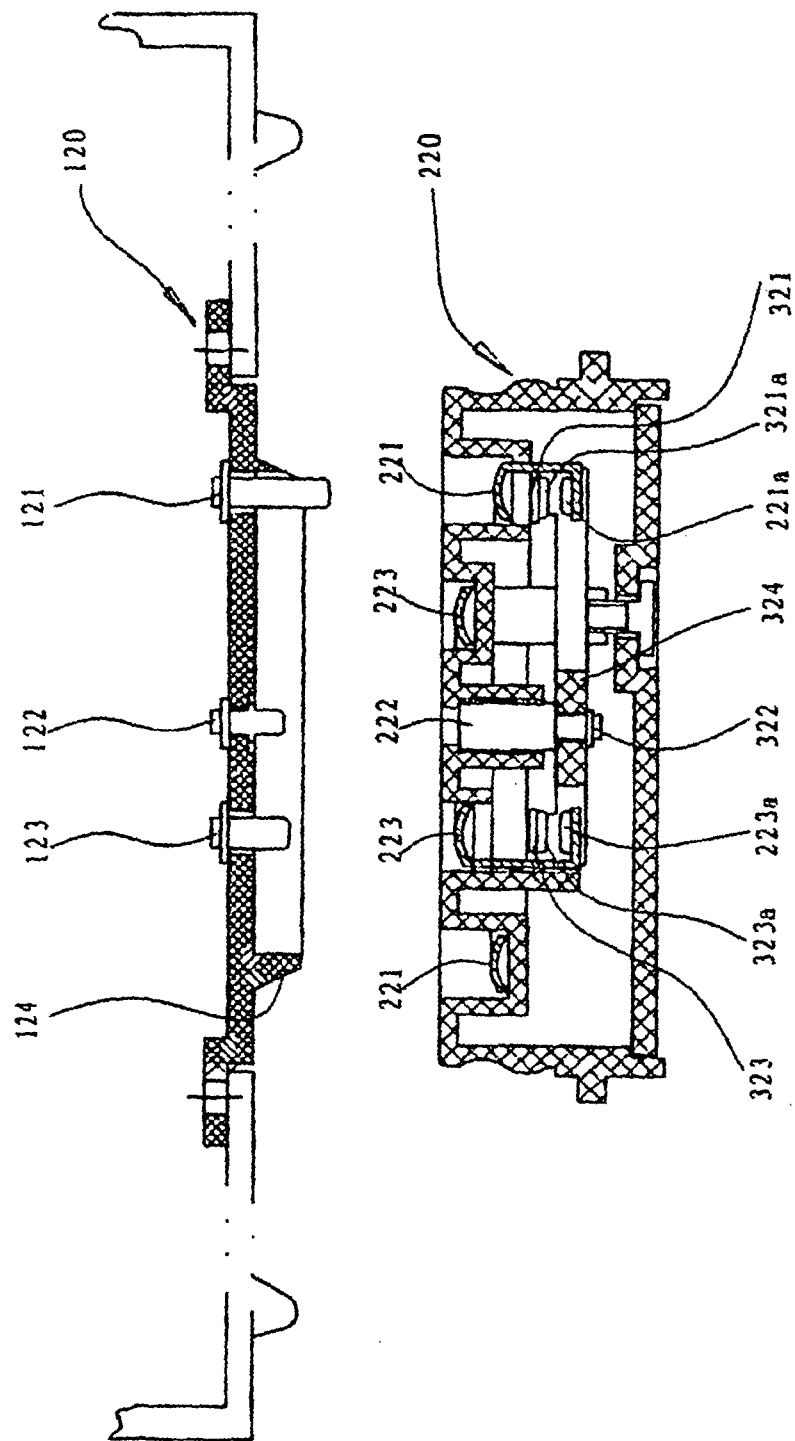


FIG. 5



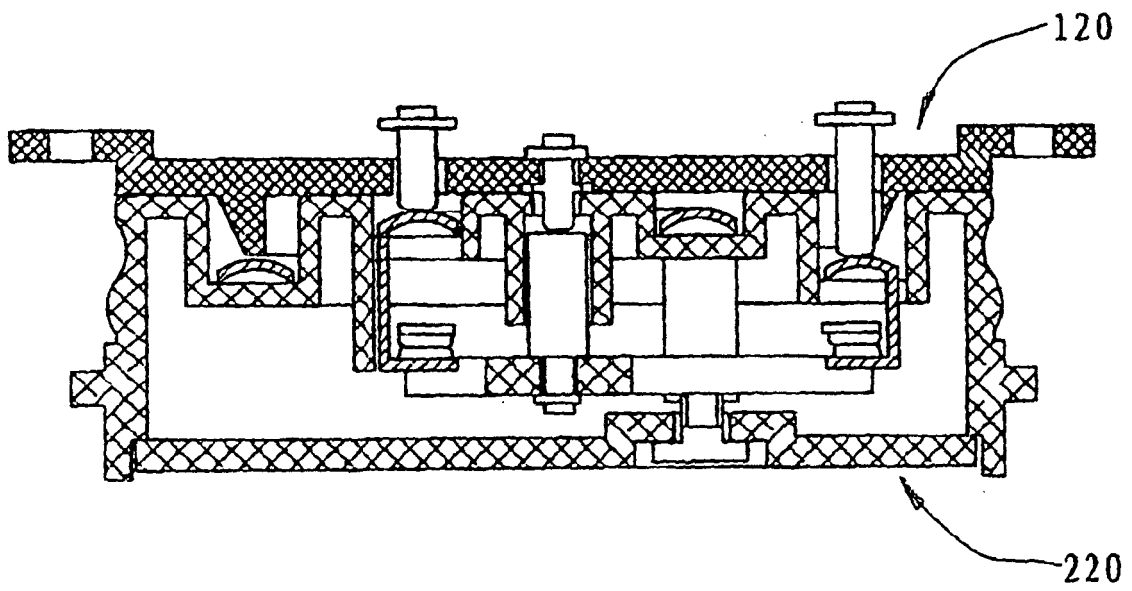


FIG. 7

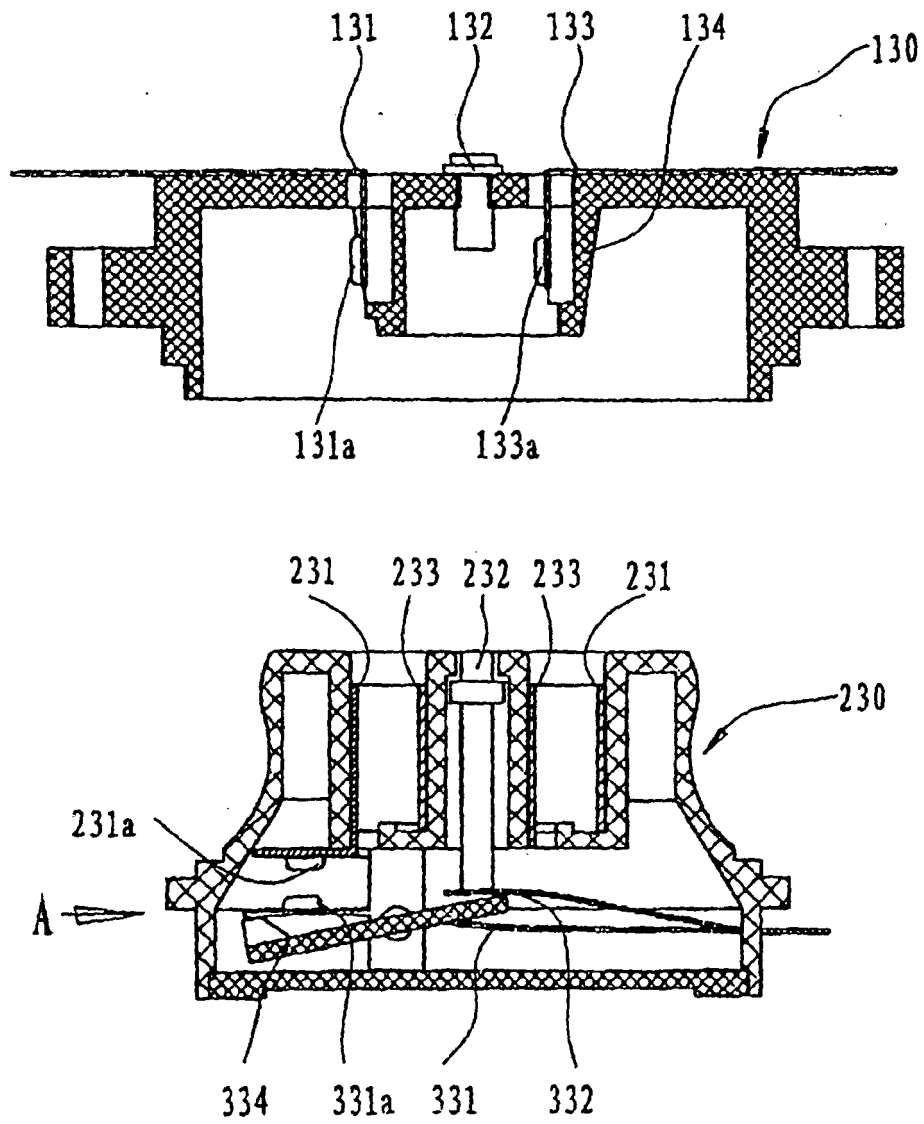


FIG. 8

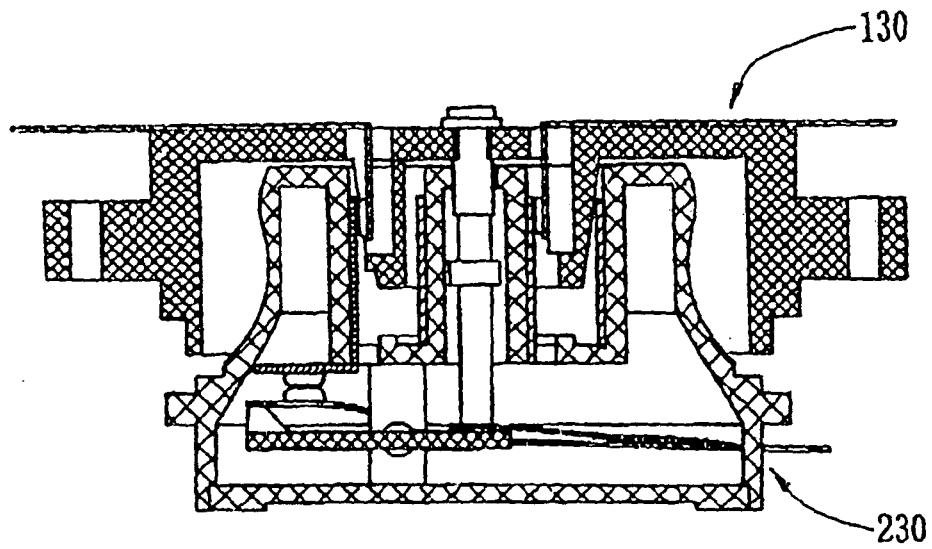
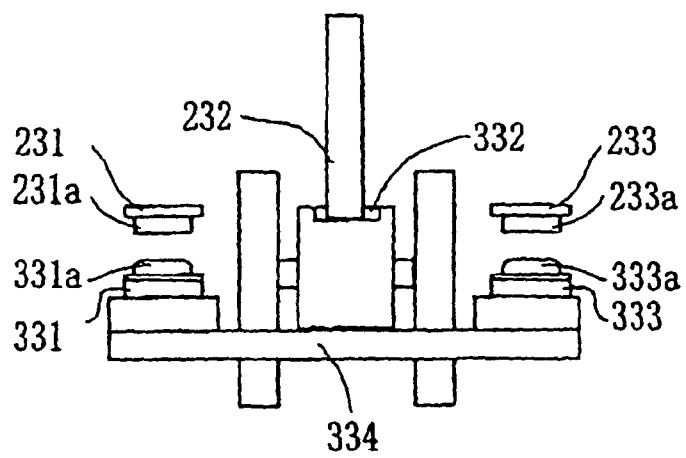


FIG. 9



Direction A

FIG. 10

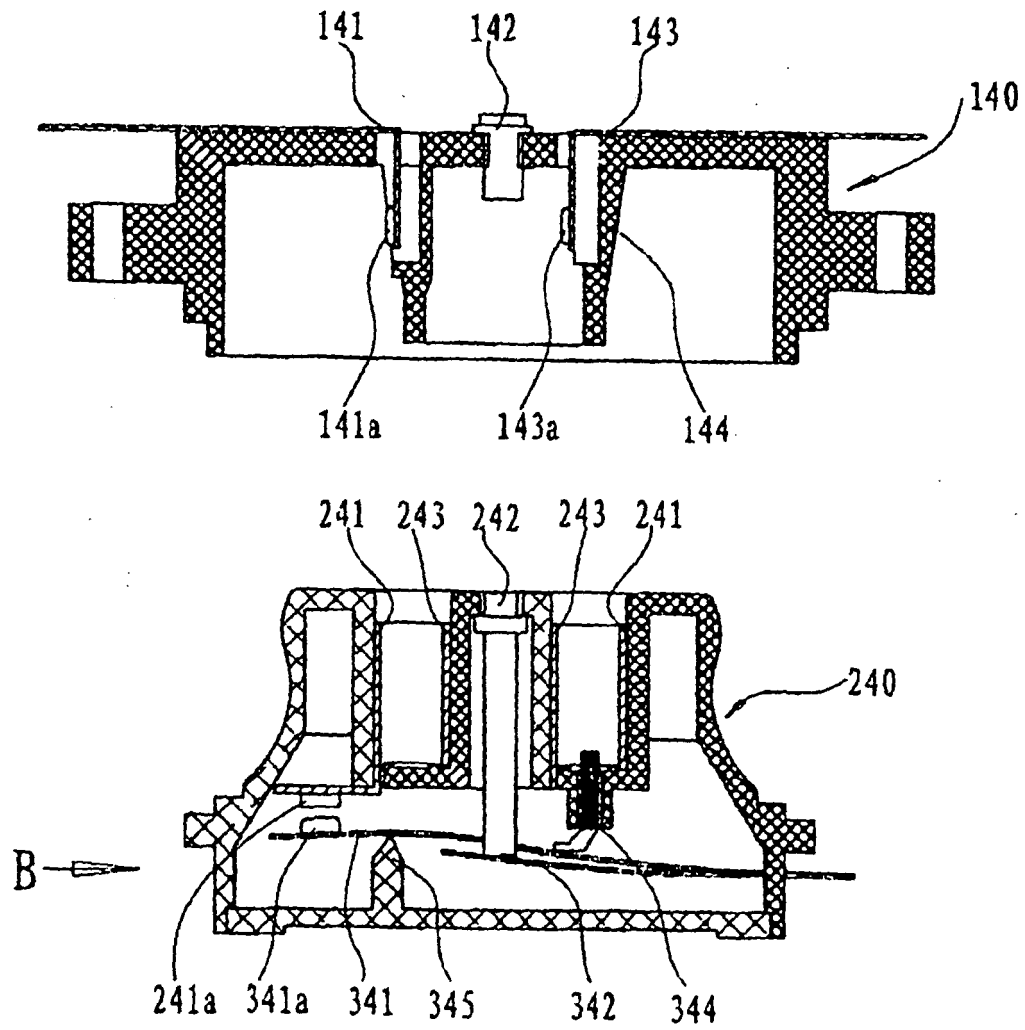


FIG. 11

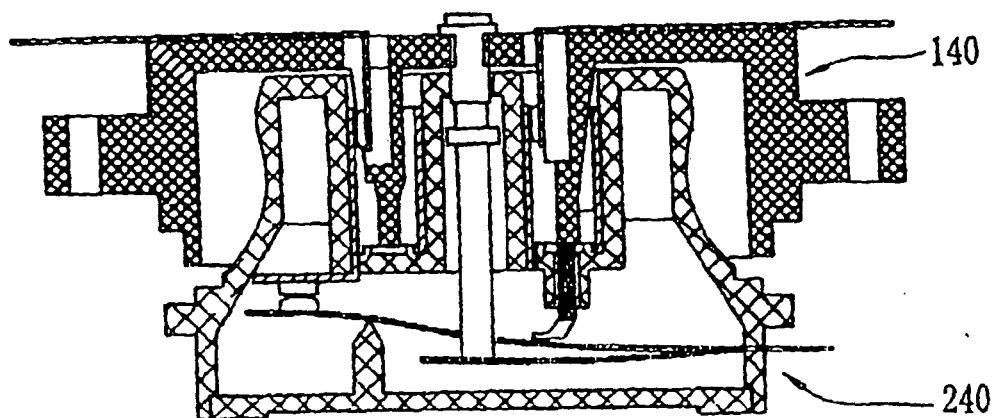
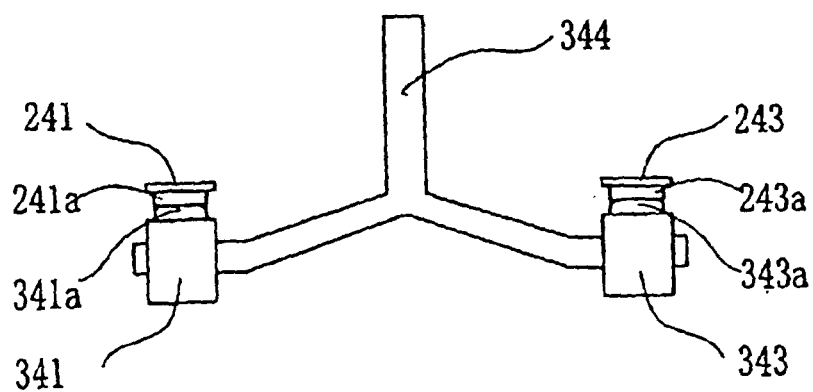


FIG. 12



Direction B

FIG. 13

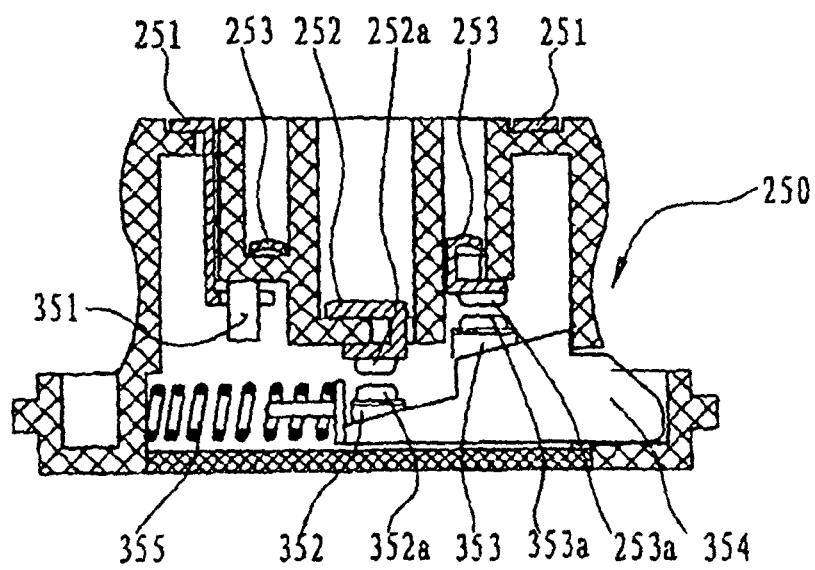
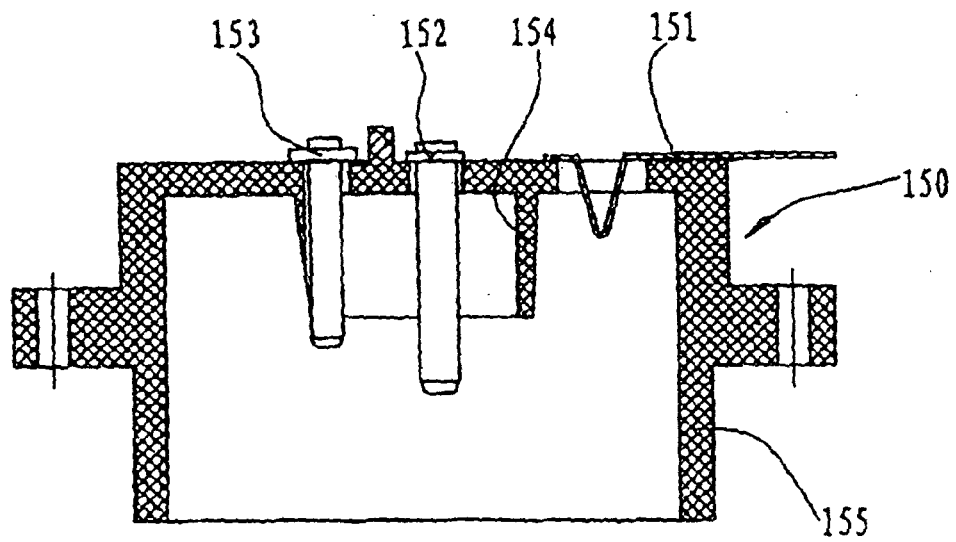


FIG. 14

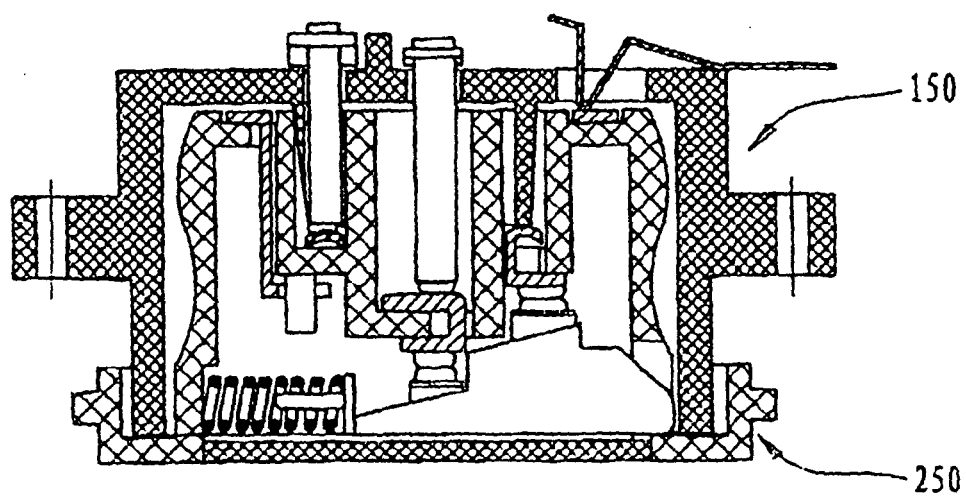


FIG. 15

REFERENCES CITED IN THE DESCRIPTION

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