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(54) **COAXIAL SWITCH CONNECTOR ASSEMBLY**

KOAXIALE SCHALTVERBINDUNGANORDNUNG

ENSEMBLE CONNECTEUR COMMUTATEUR COAXIAL

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Description

[0001] This invention relates to a coaxial connector assembly.

[0002] A common application for coaxial connectors with a switching function is found in cellular phones. Cell phones comprise their own antennas, but when mounted on a support in an automobile for example, the cell phone connects to an antenna on the automobile. The connection of the cell phone to the automobile antenna requires a switch during plugging of the cell phone to the support. The antenna connector is typically a coaxial type of connector having an inner conductor concentrically surrounded by a ground conductor.

[0003] US 4286335 describes a coaxial dual antenna connection arrangement for communications apparatus. The coaxial connector has a switch.

[0004] US 4580862 discloses a floating coaxial connector. The plug connector includes a mounting member for mounting to a panel. The plug body floats in the mounting member.

[0005] A coaxial connector with an outer shell and a body in which is mounted a center pin is disclosed in GB 2128038 A. A tapered spring is provided between body and shell to permit the pin to float.

[0006] Another example of a coaxial switching connector assembly is shown in European Patent Application 0 685 911-A1. The switch function is accomplished by provision of a spring loaded bush mounted concentrically around a coaxial centre pin conductor and biased against a conductor pad. Disconnection between the centre pin and conductor pad occurs during plugging of the complementary connector which depresses the concentric bush member.

[0007] From next coming FR-A-2733348 a coaxial connector assembly with a first coaxial connector and a second coaxial connector matable therewith in an axial direction is known. Each of the connectors comprises a mating section having an inner contact surrounded by an outer contact and separated therefrom by a dielectric. The inner contact of the first coaxial connector is resiliently moveable in the axial direction and substantially pin shaped. The first connector includes first and second contact legs, the second comprising a resilient supported contact arm for engagement against the other contact when the connectors are unmated. The first contact leg is engaged by a non conducting portion of the inner contact of the first coaxial connector when the connectors are mated and the first inner contact of the first coaxial connector is axially depressed. The inner contact of the first coaxial connector is supported by a coil spring that moves it back to its initial position.

[0008] From JP-A-08241651 a switched coaxial connector is known that can be surface mounted on a printed circuit board. The connector comprises a housing with an outer contact and first and second contact legs, the second comprising a resilient supported contact arm for engagement against the other contact when the connector is unmated. Further the connector comprises an opening for receiving a complementary coaxial connector.

[0009] The inner conductor of the complementary coaxial connector interacts with the resilient contact arm to open the contact between the two contacts of the switched coaxial connector.

[0010] One of the problems of the latter design and other coaxial connectors, is that they are not adapted to absorb relatively large tolerances in positioning of the mating parts. This is particularly important in applications such as cell phones, where in comparison to the connector size, the positioning of the cell phone in its support (cradle) may vary significantly.

[0011] Another problem arises from the frequent plugging and unplugging and the relatively large shocks and forces to which contacts are subject in applications such as cell phones. It would be desirable to provide a coaxial connector interface that supports high mechanical solicitation and a large number of connection cycles in a compact and cost-effective manner.

[0012] An object of this invention is to provide a coaxial connector assembly that withstands a large number of plugging/unplugging cycles in a reliable manner. It would be advantageous to provide a coaxial connector assembly that can tolerate relatively large tolerances between mating parts. It would be advantageous to provide a coaxial connector assembly with switching function that can withstand many connection/disconnection cycles. It would be further advantageous to provide such connector assemblies in a cost-effective, compact and robust manner.

[0013] Objects of this invention have been achieved by providing the coaxial connector assembly according to claim 1. Disclosed herein is a connector assembly comprising a first coaxial connector and a second coaxial connector matable therewith in an axial direction, each connector comprising a mating section having an inner contact surrounded by an outer contact and separated therefrom by a dielectric, the first or second coaxial connectors having a tapered funnel shaped lead-in portion for guiding and locating the connector mating sections of the first and second coaxial connectors during plugging together, wherein the inner contact of the first coaxial connector has a pin shape and is resiliently movable in the axial direction and the contact legs of the first coaxial connector have surface mount contact pads and are positioned at opposed ends of the connector.

[0014] A further preferred feature is provision of the axially movable centre contact of the fixed connector that abuts the centre contact of the mobile connector. The latter enhances resistance to shocks and permits reliable connection for many plugging/unplugging cycles. Face to face abutment of centre contacts enables contacts to project only by small amounts from mating faces of the dielectric, thereby reducing the risk of bending or otherwise damaging the centre pin contacts.

[0015] One of the connectors may comprise a spring resilient in a radial direction orthogonal to the axial direc-

tion, the spring positioned intermediate the mating section and a support for fixed attachment to a device such that the connector is resiliently floatable in the radial direction with respect to the device. The spring may further be resilient in the axial direction for axial resilient movement of the connector.

[0016] Advantageously therefore, large tolerances between mating parts may be absorbed for reliable interconnection over many cycles, and lowering risk of damaging mating components.

[0017] Further preferred aspects of the invention will be apparent from the following description, drawings or claims.

[0018] An embodiment of this invention will now be described by way of example with reference to the figures, in which;

Figure 1 is a cross-sectional view through a coaxial connector assembly according to this invention in a position just prior to mating;
Figure 2 is a view similar to that of Figure 1 of the connector assembly in the fully mated position;
Figure 3 is a side plan view of a fixed connector of the connector assembly;
Figure 4 is a cross-sectional view through lines 4-4 of Figure 3;
Figure 5 is a view in the direction of arrow 5 of Figure 4;
Figure 6 is a detailed plan view of part of a printed circuit board on which the connector of Figures 3-5 is received;
Figure 7 is an exploded cross-sectional view through a mobile connector of the connector assembly of Figures 1 and 2; and
Figure 8 is a plan end view of part of the connector of Figure 7.

[0019] Referring to Figures 1 and 2, a coaxial connector assembly 2 comprises a first connector 4 mounted on a printed circuit board (PCB) 5 within a device such as a portable phone having an outer housing 6 for reception in a device such as a telephone cradle 8 within which a second connector 10 is mounted for mating with the first connector 4. Hereinafter the first connector 4 will also be called the mobile device connector and the second connector 10 will also be called the fixed device connector.

[0020] Referring mainly to Figures 1,2,7 and 8, the fixed device connector 10 comprises a mating section 12, a mounting section 14, and a connection section 16. The connection section 16 comprises a tubular portion 18 having a passage 20 for receiving an inner conducting wire 22 surrounded by a dielectric 24 of a coaxial (e.g. antenna) cable 26. The outer surface 28 of the tubular portion 18 is for receiving an outer conductor 30 of the cable 26 thereover. The outer conductor 30 is crimped to the tubular portion by provision of a metallic ring 32 provided therearound, which is plastically deformed during the crimping process. The latter ensures on the one hand good electrical contact between the outer conductor 30 and the connection section, and on the other hand serves as a strain relief for securely holding the cable 26 to the second connector 10. As shown in Figure 1, a rear portion 33 of the securing ring 32 crimps around the outer insulation of the cable 26. The connection section 16 further comprises a conductive casing 34 integral with the tubular portion 18 and having an axially extending passage 36 orthogonal to the tubular portion and in communication with the inner conductor receiving cavity 20 thereof. The axial passage 36 is provided with an end cap 37 that closes a rear end of the passage once the cable is assembled to the second connector 10. In particular, the open end of the passage 36 enables the cable inner conductor 22 to be soldered, for example to a connection portion 38 of an inner contact 40 of the connector. A dielectric cap 42 can be further provided for positioning over the inner contact connection portion 38 prior to mounting of the cover 37 in order to separate the inner contact 38 from the outer housing and cover 34,37 which perform the function of outer conductor.

[0021] The inner contact 40 is mounted within a dielectric 44 which further supports an outer contact 46 concentrically therearound and extending in an axial direction A. The outer contact 46 is electrically and mechanically connected to the connection section outer conductor 34 by means of deformable crimping tabs 48 of the connection section crimped around a shoulder 50 at a connection end of the outer contact 46. The dielectric 44 is provided with a shoulder 52 sandwiched between shoulders of the outer conductor housing 34 and the outer contact 46 for secure attachment thereof.

[0022] The inner contact 40 is securely held to the dielectric 44 by means of retention barbs 54 provided therealong in an interference fit with the dielectric 44. A mating end of the substantially cylindrically shaped inner contact 40 is provided with a recess 56, in this embodiment conically shaped. The recess 56 forms a contact surface for receiving and locating a complementary pin contact 58 of the mobile device connector 4 in resilient axial abutment thereagainst. The mating end 57 of the inner contact 40 is slightly recessed with respect to a mating face 59 of the connector, although it is possible to vary the position of the dielectric mating face 59' as best seen when comparing the slightly different embodiments of figures 2 and 7. The latter provides additional protection to the inner contact, and particularly the contact surface 56.

[0023] The outer contact 46 is provided with resilient cantilever beam contact arms 60 extending from the mating end 59, their free ends 62 being resiliently inwardly (i.e. radially towards the inner contact 40) biasable. The free ends 62 are provided with contact protrusions 64 for resiliently contacting a concentric outer contact 66 of the mating mobile device connector 4. The resilient cantilever beams 60 are formed by cutting axially extending slits out of the generally tubular shaped outer contact 46.

[0024] The mounting section 14 comprises a spring member 68 fixed at one end 70 to the connector mating

section 12, and fixed at the other end 72 to a support member 74 securely attached to the device 8, which for example could be the housing of a mobile phone receiving cradle. An axial abutment member 76 is securely attached to the connector mating section 12 proximate the connection end 75 to limit axial displacement of the connector beyond a mating side 78 of the fixed device 8. The abutment member 76 engages a shoulder 79 of the support 8. The spring member 68 is in this embodiment a coil spring having a substantially tapered or conical shape where a small diameter end is wound around and attached to the outer contact 46 at the mating section attachment end 70, and the large diameter end is at the support attachment end 72 in abutment against the support ring 74. The conical shape of the spring enables both axial movement in direction A and radial movement in a plane with a direction R orthogonal to the axial direction A. The connector abutment 76 is thus slidably mounted against the surface 79 of the device 8. The axial biasing force of the spring 68 is slightly greater than the mating force upon full mating of the connectors 4,10, such that the spring is generally only axially compressed once the connectors have been fully mated depending on tolerances. If tolerances between the coupled connectors are such that the spring is axially compressed, the abutment member 76 lifts off the support face 79 of the device 8. The spring may also act to absorb shocks on the fixed device connector 10, for example if the mobile device housing 6 or other objects abut the connector such that it resiliently moves axially or radially, thereby reducing the risk of damage by such shocks.

[0025] As best seen in Figure 2, the conically shaped coil spring 68 enables substantial radial movement of the fixed device connector 10 with respect to the fixed device 8 in order to absorb tolerances in the radial direction in positioning between the mating connectors 10,4. A flexible film or membrane 80 may be provided attached to the outer contact 46 of the mating section 12 in order to cover the cavity 82 of the device 8 within the mating section 12 is received. The latter serves to prevent ingress of dust and the like into the device.

[0026] Referring mainly to Figures 1-5, the mobile device connector 4 comprises a dielectric housing 84 within which is axially slidably mounted the centre contact 58, and mounted concentrically therearound is an outer contact 66. The connector 4 has a mating section 86 and connection section 88. The connection section 88 comprises a first contact leg 89 and a second contact leg 90 mounted within recesses 91,92 respectively at a PCB mounting end 83 of the dielectric 84. The contact legs 89,90 have surface mount contact portions 93 for surface mount soldering on a PCB 94 for interconnection to electrical components of a mobile phone, for example. The second contact leg 90 comprises a resilient contact arm 96 having a contact protrusion 97 for engagement against a contact surface 98 of the first contact leg 89. The contact arm 96 is prestressed when mounted in the dielectric 84 such that the contact surfaces 97,98 abut with a certain force for reliable electrical contact therebetween. The resilient contact arm 96 extends across and axially below a rounded connection end 99 of the centre pin contact 58. When the pin contact 58 is depressed towards the PCB 5, the contact arm 96 is thus depressed and electrical connection between the legs 89,90 is broken. When the connectors 10,4 are fully mated, abutment of the inner contacts 40,58 thus breaks contact between the contact legs 89,90 as shown in Figure 2. The latter switch function for example causes a cell phone antenna to be switched to the antenna of the fixed device 8 when the cell phone is mounted thereon. The resilient contact arm also provides the spring force for abutting the slidable inner contact 58 against the mating inner contact 40, such that few components are needed to provide the switching and contact functions. The axial face-to-face abutment of the slidable inner contact 58 and inner contact 40 as shown in Figure 2, enables the slidable contact end 85 to project only slightly beyond the mating face 87 of the dielectric 84. The latter reduces the risk of damage to the contacts during plugging, or with respect to external objects.

[0027] The outer contact 66 is provided with a large conical lead-in section 94 for guiding the mating section 12 during plugging. The tapered or conical lead-in section 94 is quite substantial in order to absorb relatively large tolerances in radial positioning of the connectors 4, 10.

[0028] The contacts legs 89,90, which may be cost effectively manufactured from stamping and forming sheet metal, are provided with V-shaped retention members 100 that dig into opposed walls of a slot 102 in the mounting end 93 of the dielectric 84. The contact legs can thus be securely attached and positioned with respect to the dielectric 84 by merely depressing the retention portions 100 into the slot 102. The connector 4 maybe robustly supported on the PCB by the solder connection of the contact legs 93 in addition the solder connection of the outer contact 66 which is provided with opposed solder mount extensions 104 mountable against the PCB 5. As shown in Figure 6, the PCB 5 is provided with arcuate conductive traces 106 for solder connection to the outer contact solder mount extensions 104. Due to the arcuate shape of the extensions 104, which are substantially a continuation of the cylindrical shape of the outer contact 66, a robust attachment to the PCB is provided, in addition to the possibility of providing a substantial solder area around the connector 4 that enhances the robustance of the solder connection. The solder connections also provide the electrical connections to the outer and inner contacts 66,58.

Claims

1. A coaxial connector assembly (2) comprising a first coaxial connector (4) and a second coaxial connector (10) matable therewith in an axial direction (A), each connector comprising a mating section (86,12)

having an inner contact (58,40) surrounded by an outer contact (66,46) and separated therefrom by a dielectric (84,44),
the inner contact (58) of the first coaxial connector (4) being substantially pin shaped and resiliently movable in the axial direction (A) with respect to the outer contact (66) of the first coaxial connector (4),
the first coaxial connector further including first and second contact legs (89, 90), at least one of which comprising a resiliently supported contact arm (96) for engagement against the other contact leg when the connectors are unmated, and the contact legs (89, 90) of the first coaxial connector each having surface mount contact pads (93), positioned at opposed ends of the connector, for soldering on a PCB (5),
characterized in that the first coaxial connector (4) has a tapered funnel shaped lead-in portion (94) for guiding and locating the connector mating sections (86,12) of the first and second coaxial connectors during plugging together,
in that the resiliently supported contact arm (96) is engaged by the inner contact (58) of the first coaxial connector when the inner contact (58) is axially depressed during mating of the coaxial connectors,
in that the resiliently supported contact arm (96) alone provides the spring force for abutting the movable inner contact (58) against the mating inner contact (40) of the second coaxial connector (10).

2. The connector assembly of claim 1-wherein the inner contact (40) of the second coaxial connector (10) a concave contact surface (56) fixed in relation to the dielectric (44).

3. The connector assembly of claim 2 wherein the contact surface (56) is substantially conical in shape.

4. The connector assembly of any one of claims 1-3 wherein the mating section (12) of the second coaxial connector is resiliently floatably mounted to a support (72,74) of a device (8).

5. The connector assembly of any one of claims 1-4 wherein the funnel shaped lead-in portion (94) on the first coaxial connector (4) extends beyond a mating face (87) of the first connector dielectric (84), and wherein the pin-shaped centre contact (58) of the first coaxial connector has a contact end (85) projecting beyond the dielectric mating face (87) less than the lead-in portion (94).

6. A coaxial connector assembly (2) according to any one of the preceding claims, wherein at least the second coaxial connector (10) comprises a spring (68) resilient in a radial direction (R) orthogonal to the axial direction, the spring positioned intermediate the mating section (12) and a support (74) for fixed attachment to a device (8) within which the second coaxial connector is mounted, such that the second coaxial connector (10) is resiliently floatable in the radial direction with respect to the device (8).

7. The connector assembly of claim 6 wherein the spring is also resilient in the axial direction (A), whereby the spring force is greater than a mating force required for fully mating the coaxial connector (4,10).

8. The connector assembly of claims 6 or 7 wherein the spring is a substantially conically shaped coil-spring, engaging at a small diameter end (70) the mating section (12) of the second coaxial connector (10), and at a large diameter end (72) the support (74).

9. The connector assembly of any one of the preceding claims wherein the first coaxial connector outer contact (66) comprises extensions (104) on opposed sides of the dielectric (84) for mounting on a PCB (5), the extensions having a curved shape in axial continuation of a substantially cylindrical mating section of the outer contact such that the solder pads (105) arranged at ends of the extensions (104) have substantially arcuate shapes.

Patentansprüche

1. Koaxialverbinderanordnung (2), umfassend einen ersten Koaxialverbinder (4) und einen zweiten Koaxialverbinder (10), der damit in einer axialen Richtung (A) in Eingriff kommen kann, wobei jeder Verbinder einen Eingriffsabschnitt (86, 12) umfasst, der einen inneren Kontakt (58, 40) aufweist, der von einem äußeren Kontakt (66, 46) umgeben ist und davon durch ein Dielektrikum (84, 44) getrennt ist,
wobei der innere Kontakt (58) des ersten Koaxialverbinders (4) im Wesentlichen stiftförmig ist und in der axialen Richtung (A) in Bezug auf den äußeren Kontakt (66) des ersten Koaxialverbinders (4) elastisch beweglich ist,
wobei der erste Koaxialverbinder weiterhin erste und zweite Kontaktschenkel (89, 90) enthält, von denen mindestens einer einen elastisch unterstützten Kontaktarm (96) zum Eingriff gegen den äußeren Kontaktschenkel umfasst, wenn die Verbinder nicht im Eingriff sind, und die Kontaktschenkel (89, 90) des ersten Koaxialverbinders jeweils Oberflächenmontagekontaktanschlussflächen (93) aufweisen, die an gegenüberliegenden Enden des Verbinders zum Löten auf eine Leiterplatte (5) angeordnet sind,
dadurch gekennzeichnet, dass der erste Koaxialverbinder (4) einen kegelförmigen, trichterförmigen Einführungsabschnitt (94) zum Führen und Positionieren der Verbindereingriffsabschnitte (86, 12) des

ersten und zweiten Koaxialverbinders während des Zusammensteckens aufweist,
dass der elastisch unterstützte Kontaktarm (96) durch den inneren Kontakt (58) des ersten Koaxialverbinders in Eingriff kommt, wenn der innere Kontakt (58) während des Eingriffs der Koaxialverbinder axial heruntergedrückt wird,
dass der elastisch unterstützte Kontaktarm (96) alleine die Federkraft zum Aufeinanderstoßen des beweglichen inneren Kontakts (58) gegen den inneren Gegenkontakt (40) des zweiten Koaxialverbinders (10) bereitstellt.

2. Verbinderanordnung nach Anspruch 1, bei der der innere Kontakt (40) des zweiten Koaxialverbinders (10) eine konkave Kontaktfläche (56) aufweist, die in Beziehung zum Dielektrikum (44) unbeweglich ist.

3. Verbinderanordnung nach Anspruch 2, bei der die Kontaktfläche (56) im Wesentlichen eine kegelförmige Form aufweist.

4. Verbinderanordnung nach einem der Ansprüche 1-3, bei der der Eingriffsabschnitt (12) des zweiten Koaxialverbinders an einer Halterung (72, 74) einer Vorrichtung (8) elastisch schwimmfähig montiert ist.

5. Verbinderanordnung nach einem der Ansprüche 1-4, bei der sich der trichterförmige Einführungsabschnitt (94) am ersten Koaxialverbinder (4) über eine Eingriffsfläche (87) des ersten Verbinderdielektrikums (84) hinaus erstreckt, und bei der der stiftförmige Mittelkontakt (58) des ersten Koaxialverbinders ein Kontaktende (85) aufweist, das über die dielektrische Eingriffsfläche (87) weniger vorsteht als der Einführungsabschnitt (94).

6. Koaxialverbinderanordnung (2) nach einem der vorhergehenden Ansprüche, bei der mindestens der zweite Koaxialverbinder (10) eine Feder (68) aufweist, die in einer radialen Richtung (R) orthogonal zur axialen Richtung elastisch ist, wobei die Feder zwischen dem Eingriffsabschnitt (12) und einer Halterung (74) für eine unbewegliche Befestigung an einer Vorrichtung (8) positioniert ist, innerhalb der der zweite Koaxialverbinder montiert ist, so daß der zweite Koaxialverbinder (10) in der radialen Richtung mit Bezugnahme auf die Vorrichtung (8) elastisch schwimmfähig ist.

7. Verbinderanordnung nach Anspruch 6, bei der die Feder ebenfalls in der axialen Richtung (A) elastisch ist, wodurch die Federkraft größer ist als eine Eingriffskraft, die für einen vollständigen Eingriff des Koaxialverbinders (4, 10) erforderlich ist.

8. Verbinderanordnung nach Anspruch 6 oder 7, bei der die Feder eine im wesentlichen kegelförmig geformte Spiralfeder ist, die am Ende (70) mit kleinem Durchmesser mit dem Eingriffsabschnitt (12) des zweiten Koaxialverbinders (10) und am Ende (72) mit großem Durchmesser mit der Halterung (74) in Eingriff ist.

9. Verbinderanordnung nach einem der vorhergehenden Ansprüche, bei der der äußere Kontakt (66) des ersten Koaxialverbinders Verlängerungen (104) an gegenüberliegenden Seiten des Dielektrikums (84) für ein Montieren auf eine Leiterplatte (5) aufweist, wobei die Verlängerungen eine gebogene Form in axialer Fortsetzung eines im wesentlichen zylindrischen Eingriffsabschnittes des äußeren Kontaktes aufweisen, so daß die Lötflächen (105), die an Enden der Verlängerungen (104) angeordnet sind, im wesentlichen bogenförmige Formen aufweisen.

Revendications

1. Assemblage de connecteur coaxial (2), comprenant un premier connecteur coaxial (4) et un deuxième connecteur coaxial (10) pouvant être accouplé avec celui-ci dans une direction axiale (A), chaque connecteur comprenant une section d'accouplement (86, 12), comportant un contact interne (58, 40) entouré par un contact externe (66, 46) et séparé de celui-ci par un diélectrique (84, 44), le contact interne (58) du premier connecteur coaxial (4) ayant pratiquement une forme en broche et pouvant être élastiquement déplacé dans la direction axiale (A) par rapport au contact externe (66) du premier connecteur coaxial (4),
le premier connecteur coaxial englobant en outre des première et deuxième branches de contact (89, 90), au moins une de celles-ci comprenant un bras de contact à support élastique (96) destiné à s'engager contre l'autre branche de contact lorsque les connecteurs sont désaccouplés, et
les branches de contact (89, 90) du premier connecteur coaxial comportant chacune des plots de contact montés en surface (93), positionnés au niveau des extrémités opposées du connecteur, en vue du soudage sur une carte à circuit imprimé (PCB) (5),
caractérisé en ce que le premier connecteur coaxial (4) comporte une partie d'entrée en forme d'entonnoir effilé (94) pour guider et positionner les sections d'accouplement (86, 12) des premier et deuxième connecteurs coaxiaux au cours de leur branchement,
en ce que le bras de contact à support élastique (96) est engagé dans le contact interne (58) du premier connecteur coaxial lorsque le contact interne (58) est soumis à une pression axiale au cours de l'accouplement des connecteurs coaxiaux,
en ce que le bras de contact à support élastique (96) produit seul la force élastique en vue de la butée

du contact interne mobile (58) contre le contact interne d'accouplement (40) du deuxième connecteur coaxial (10).

2. Assemblage de connecteur selon la revendication 1, dans lequel le contact interne (40) du deuxième connecteur coaxial (10) comporte une surface de contact concave (56) fixée par rapport au diélectrique (44).

3. Assemblage de connecteur selon la revendication 2, dans lequel la surface de contact (56) a une forme pratiquement conique

4. Assemblage de connecteur selon l'une quelconque des revendications 1 à 3, dans lequel la section d'accouplement (12) du deuxième connecteur coaxial est montée sur un support (72, 74) d'un dispositif (8) de sorte à pouvoir y flotter élastiquement.

5. Assemblage de connecteur selon l'une quelconque des revendications 1 à 4, dans lequel la partie d'entrée en forme d'entonnoir (94) sur le premier connecteur coaxial (4) s'étend au-delà d'une face d'accouplement (87) du diélectrique (84) du premier connecteur, le contact central en forme de broche (58) du premier connecteur coaxial comportant une extrémité de contact (85) débordant au-delà de la face d'accouplement diélectrique (87) sur une distance inférieure à celle de la partie d'entrée (94).

6. Assemblage de connecteur coaxial (2) selon l'une quelconque des revendications précédentes, dans lequel au moins le deuxième connecteur coaxial (10) comprend un ressort (68) présentant une élasticité dans une direction radiale (R) orthogonale à la direction axiale, le ressort étant agencé entre la section d'accouplement (12) et un support (74) en vue d'une fixation ferme sur un dispositif (8), dans lequel est monté le deuxième connecteur coaxial, de sorte que le deuxième connecteur coaxial (10) peut flotter élastiquement dans la direction radiale par rapport au dispositif (8).

7. Assemblage de connecteur selon la revendication 6, dans lequel le ressort présente aussi une élasticité dans la direction axiale (A), la force de ressort étant supérieure à une force d'accouplement nécessaire à l'accouplement complet du connecteur coaxial (4, 10).

8. Assemblage de connecteur selon les revendications 6 ou 7, dans lequel le ressort est un ressort à boudin de forme pratiquement conique, s'engageant au niveau d'une extrémité de petit diamètre (70) dans la section d'accouplement (12) du deuxième connecteur coaxial (10) et au niveau d'une extrémité de grand diamètre (72) dans le support (74).

9. Assemblage de connecteur selon l'une quelconque des revendications précédentes, dans lequel le contact externe du premier connecteur coaxial (66) comprend des extensions (104) sur les côtés opposés du diélectrique (84) en vue du montage sur une PCB (5), les extensions ayant une forme courbée, constituant une continuation axiale d'une section d'accouplement pratiquement cylindrique du contact externe, de sorte que les plots de soudage (105) agencés au niveau des extrémités des extensions (104) ont des formes pratiquement arquées.

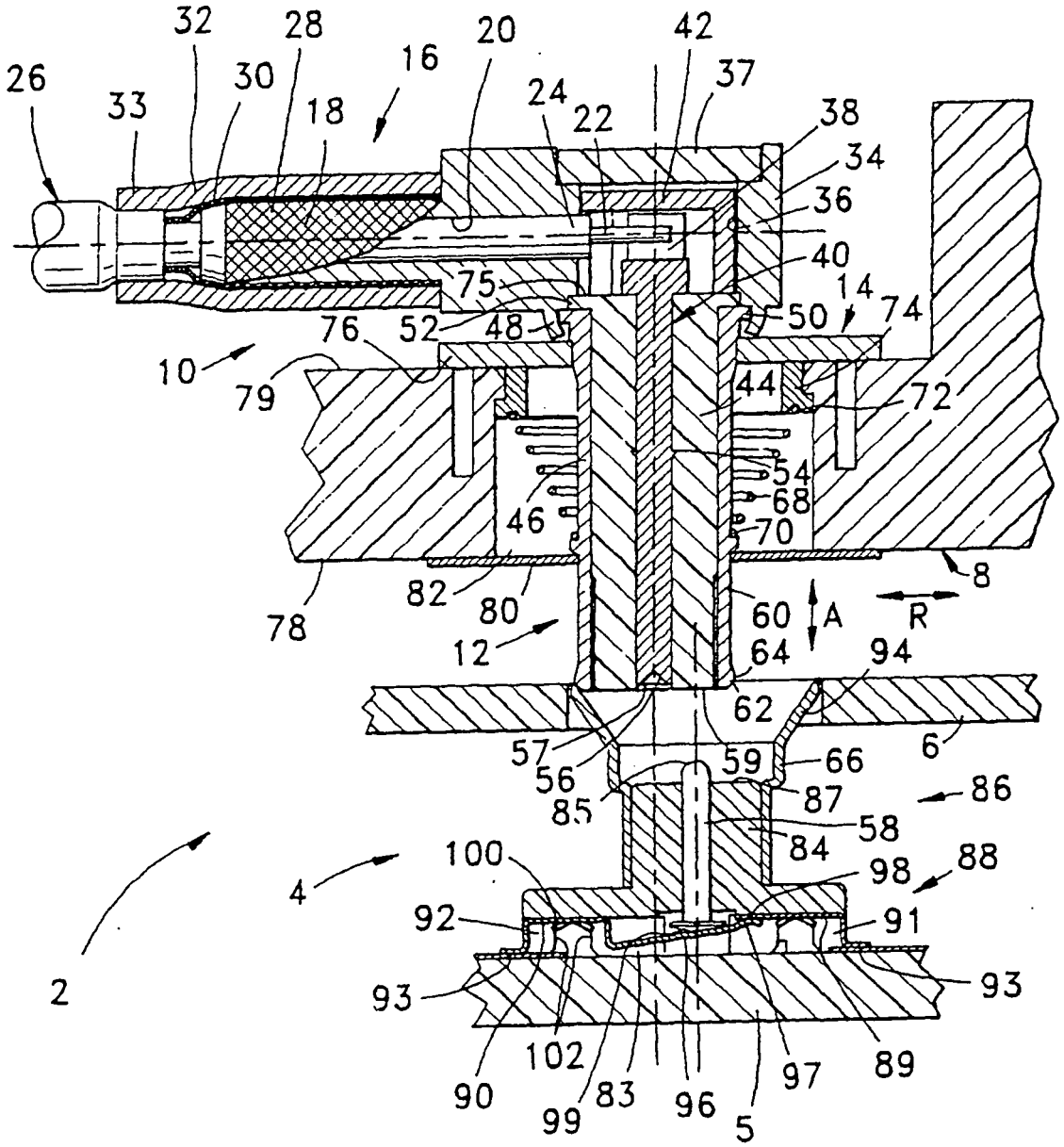
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Fig. 1

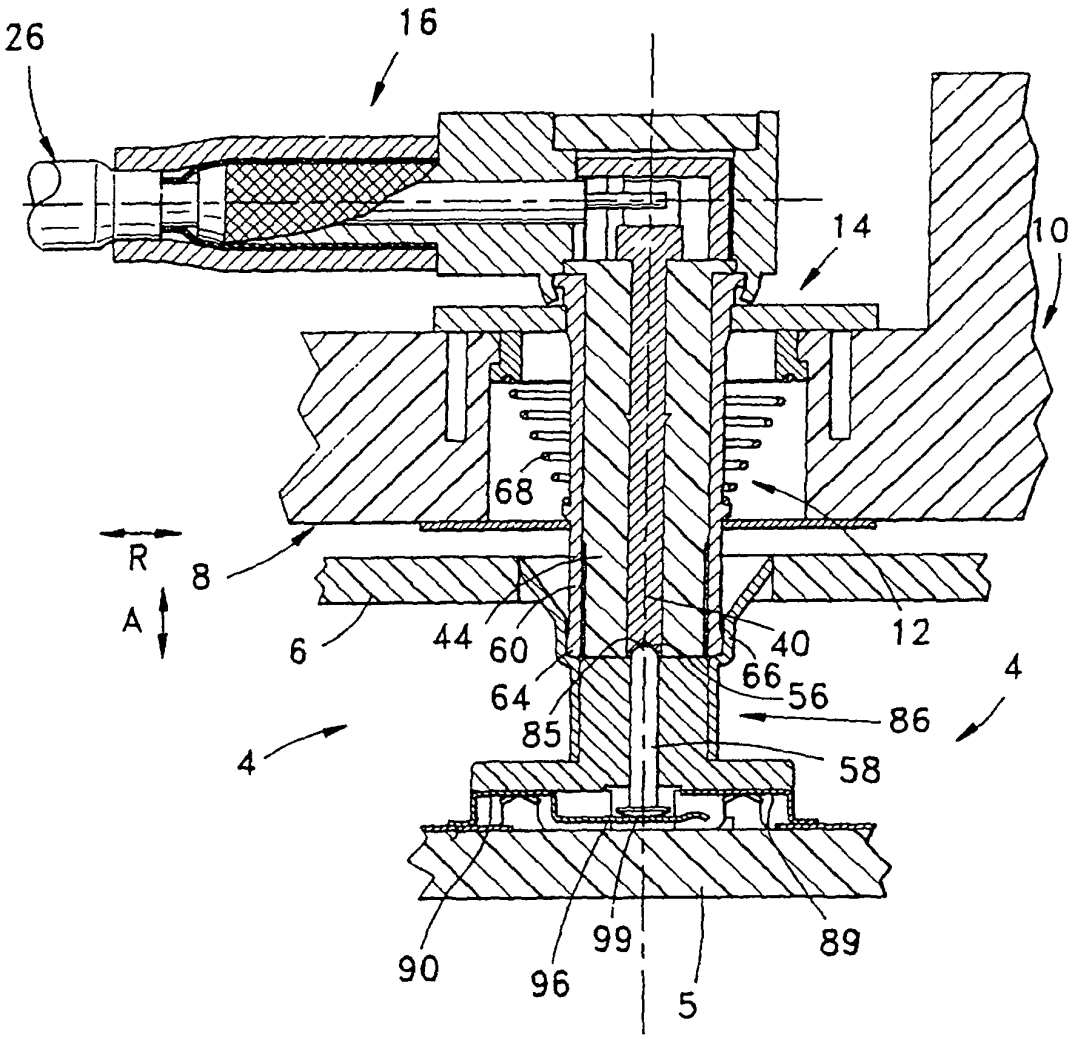

Fig. 2

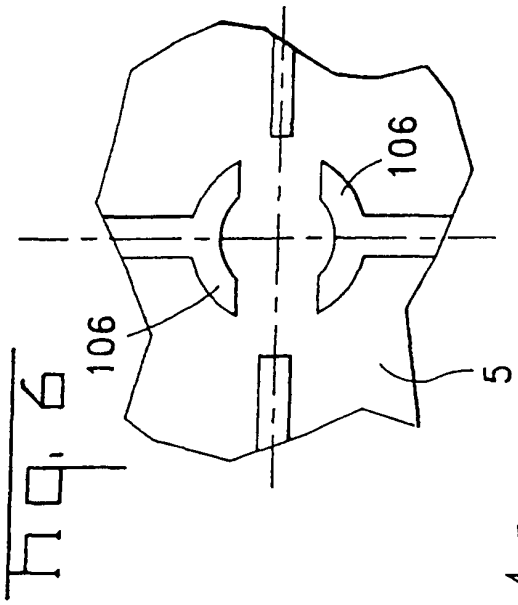

Fig. 6

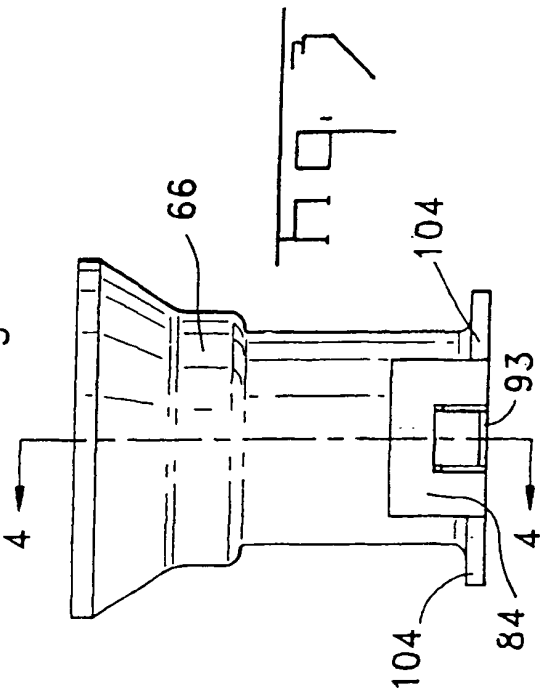

Fig. 7

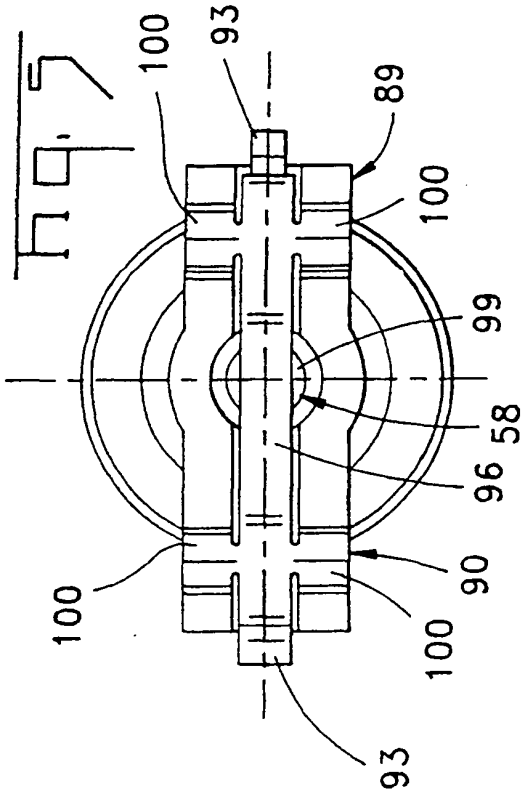

Fig. 5

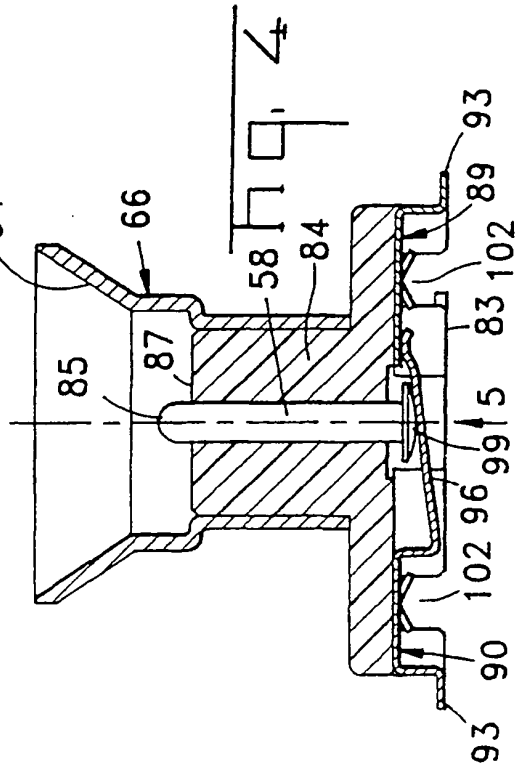

Fig. 4

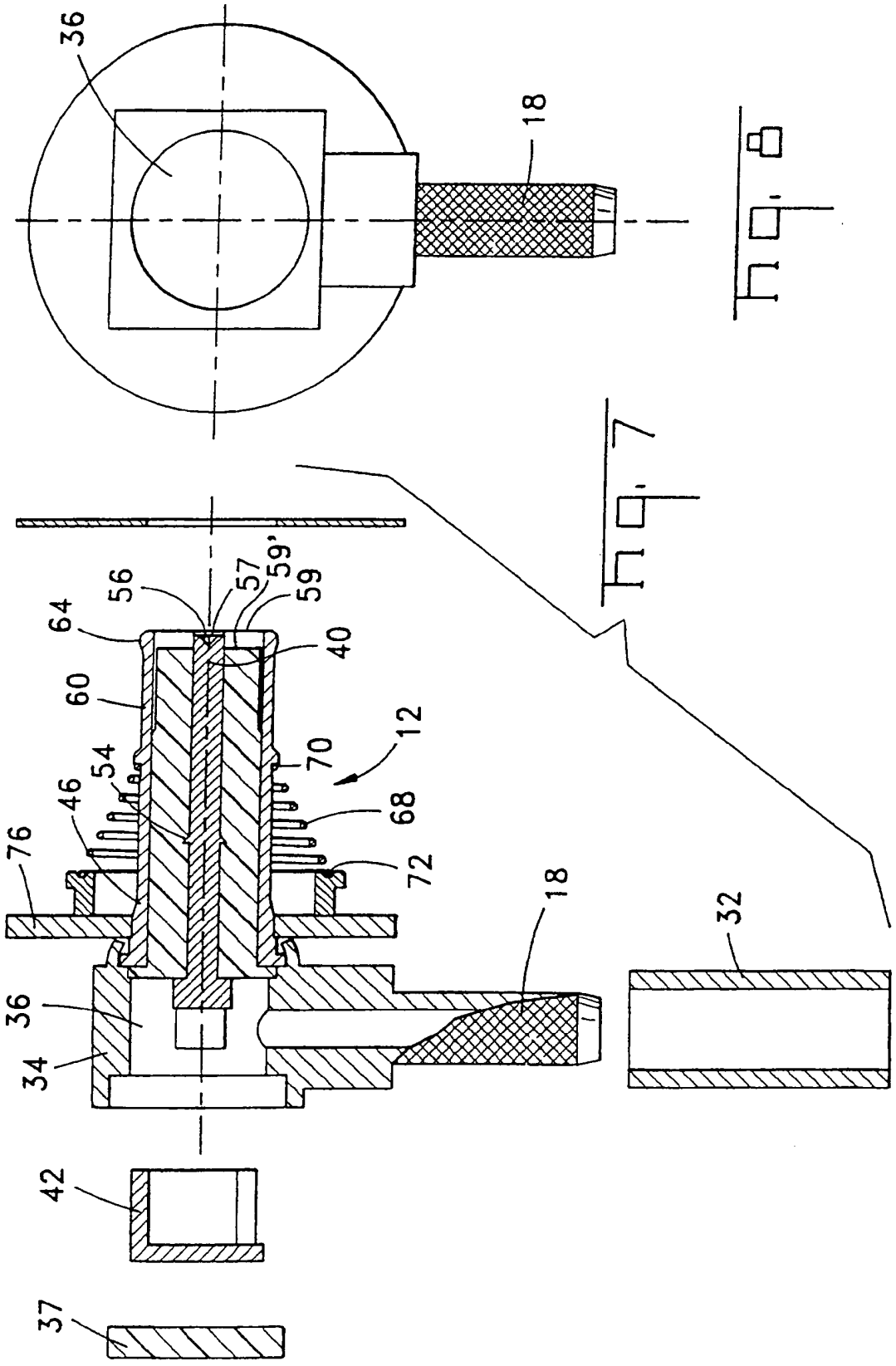

Fig. 8

Fig. 7

REFERENCES CITED IN THE DESCRIPTION

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