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(54) ELECTRICAL CONNECTOR

(57) The present invention discloses an electrical connector including: a housing; an insulating body received within the housing; and a plurality of first conductive terminals held in the insulating body. A plurality of first receiving slots are formed in an outer circumference surface of a base portion of the insulating body and spaced from each other around the outer circumference surface of the insulating body so that the base portion of the insulating body is in the form of a spline provided with a plurality of teeth; a plurality of first through-holes are formed in the insulating body, extend in an axial direction of the insulating body, and communicated with the plurality of first receiving slots, respectively; and each first conductive terminals comprises a seat fitted in the first receiving slot and a pin inserted into the first through-hole. The first receiving slots are formed in the base portion of the insulating body, thereby decreasing the material usage for manufacture of the insulating body and in turn reducing the manufacturing cost thereof. Besides, the thickness across the insulating body is thus relatively uniform, increasing the molding accuracy thereof.

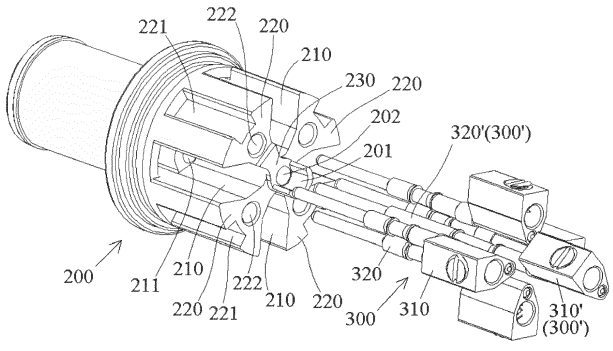

Fig.1

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Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Chinese Patent Application No. 201520125796.3 filed on March 4, 2015 in the State Intellectual Property Office of China, the whole disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] Embodiments of the present invention relate to an electrical connector used in instrumentation, control apparatus, and electrical equipment.

Description of the Related Art

[0003] In the prior art, an electrical connector primarily comprises a housing, an insulating body received within the housing and a plurality of conductive terminals held in the insulating body.

[0004] The insulating body for holding the plurality of conductive terminals is generally pre-molded by plastics. However, in the prior art, excessive local thickness of the insulating body usually results in non-uniform thickness across itself, which in turn brings about increased difficulty in molding such insulting body due to the fact that the molding accuracy thereof is decreased by non-uniform heat transfer rate. Moreover, due to the non-uniformity among various portions of the insulating body, the thermal expansion and contraction also fails to be uniform across the insulating body in use, which may in turn adversely affect the positional accuracy of the plurality of conductive terminals held within the insulating body. In addition, increased material usage and thus enhanced manufacturing cost of the insulating body are both introduced by excessively large local thickness thereof.

[0005] In prior art, there is clearance between the pin of each of the conductive terminals and the insulating body, i.e., a clearance fit exists therebetween. Thereby, it is difficult to control the positional accuracy of each pin so that the positional accuracy of either of the assembled pins tends to go beyond the margin of error as specified by the technical specifications, for example, a positional accuracy of 0.1.

[0006] An axial hole for receiving wire therein is formed in the base of each of the conductive terminals. Once an end of the wire has been inserted into such axial hole, the wire is pressed against the inner wall of the axial hole by a screw threaded onto the base, so that the electrical connection between the wire and the conductive terminal is achieved.

[0007] However, in the prior art, since there exists clearance between the pin of the conductive terminal and the insulating body, when the wire is pressed against the inner wall of the axial hole of the base, it is possible that the pin of the conductive terminal is driven to move with the action of compression force exerted by the screw, thereby reducing the positional accuracy of the pin.

[0008] Furthermore, in the prior art, a conductive terminal is a single component, i.e., the base and the pin are formed integrally, while the pin is offset on one side of the base, resulting in relatively complex machining for this type of integral conductive terminal.

[0009] Moreover, in the prior art, since a conductive terminal is a single component, both the base and the pin are necessarily made of copper. However, the volume of the base is relatively large and in turn brings about a great demand of copper, which inevitably increase the cost thereof.

[0010] In addition, in the prior art, the length of the base is larger than half of the total length of the entire conductive terminal, which results in greater volume of the base, larger material usage/demand and thus enhanced cost thereof.

SUMMARY OF THE INVENTION

[0011] The present invention has been made to overcome or alleviate at least one aspect of the above mentioned disadvantages and/or shortcomings.

[0012] One main object of the present invention is to provide an electrical connector which is capable of not only decreasing the material usage of the insulating body but also enhancing the accuracy of manufacture thereof.

[0013] Another object of the present invention is to provide an electrical connector which ensures the positional accuracy of a pin of a conductive terminal.

[0014] Still another object of the present invention is to provide an electrical connector which decreases material usage for manufacture of a conductive terminal, thereby decreasing the manufacturing cost thereof.

[0015] According to an aspect of the present invention, there is provided an electrical connector, comprising: a housing; an insulating body received within the housing; and a plurality of first conductive terminals held in the insulating body. A plurality of first receiving slots are formed in an outer circumference surface of a base portion of the insulating body and spaced from each other around the outer circumference surface of the insulating body so that the base portion of the insulating body is in the form of a spline provided with a plurality of teeth; a plurality of first through-holes are formed in the insulating body, extend in an axial direction (longitudinal direction) of the insulating body, and communicated with the plurality of first receiving slots, respectively; and each first conductive terminals comprises a seat fitted in the first receiving slot and a pin inserted into the first through-hole.

[0016] According to another exemplary embodiment of the present invention, a second through-hole is formed in the center of the insulating body and extends in the axial direction of the insulating body; and an axial pro-

jecting portion is formed on an end surface of the base portion of the insulating body, a second receiving slot being formed on the axial projecting portion and communicated with the second through-hole. The electrical connector further comprises a second conductive terminal which comprises a seat fitted in the second receiving slot and a pin inserted into the second through-hole.

[0017] According to another exemplary embodiment of the present invention, an axial hole is formed in each tooth of the base portion of the insulating body.

[0018] According to another exemplary embodiment of the present invention, an axial slot is formed in outer periphery of each tooth of the base portion of the insulating body.

[0019] According to another exemplary embodiment of the present invention, the pins of the first conductive terminals and the second conductive terminal are assembled in the first and second through-holes in interference-fit manner, respectively.

[0020] According to another exemplary embodiment of the present invention, the pin comprises a plurality of sections with different diameters, which are assembled in the insulating body in interference-fit manner.

[0021] According to another exemplary embodiment of the present invention, the pin comprises a first section adjacent to the seat and a second section away from the seat, the diameter of the first section being larger than that of the second section.

[0022] According to another exemplary embodiment of the present invention, at least one barb is formed on the pin and engaged within the insulating body so as to avoid movement of the pin relative to the insulating body.

[0023] According to another exemplary embodiment of the present invention, a first barb and a second barb which is spaced apart from the first barb in the longitudinal direction are formed on the pin.

[0024] According to another exemplary embodiment of the present invention, a first axial hole is formed in the seat, and an end portion of the pin is inserted into the first axial hole of the seat.

[0025] According to another exemplary embodiment of the present invention, a trench is formed in one of the outer wall of the end portion of the pin and the inner wall of the first axial hole of the seat; and a projection is formed on the other of the outer wall of the end portion of the pin and the inner wall of the first axial hole of the seat, and the projection is engaged with the trench when the end portion of the pin is inserted into the first axial hole of the seat.

[0026] According to another exemplary embodiment of the present invention, a second axial hole is further formed in the seat, for receiving wires therein.

[0027] According to still another exemplary embodiment of the present invention, the wire is pressed against an inner wall of the second axial hole by a screw threaded into the seat so that the wire is electrically connected with the base and thereby with the pin via the seat.

[0028] According to still another exemplary embodiment of the present invention, a notch for communicating the first axial hole and the second axial hole is formed in the seat; and the wire projects towards and comes into direct electrical contact with the pin in the first axial hole via the notch, upon compression of the screw which is threaded onto the seat.

[0029] According to yet another exemplary embodiment of the present invention, the pin is made of a first material while the base is made of a second material which differs from that first material and has an inferior electrical conductivity performance to that of the first material.

[0030] According to yet another exemplary embodiment of the present invention, the pin is made of copper while the base is made of aluminum or aluminum alloy.

[0031] According to still yet another exemplary embodiment of the present invention, the notch is in the form of one of a group comprising: rectangular shape, circular shape or elliptical shape

[0032] According to still yet another exemplary embodiment of the present invention, the length of the base portion is less than half of the total length of the first conductive terminal.

[0033] According to still yet another exemplary embodiment of the present invention, the length of the base portion is 01-0.4 times of the total length of the first conductive terminal.

[0034] In the electrical connectors of above various exemplary embodiments of the present invention, the first receiving slots are formed on outer periphery of a base portion of the insulating body, spaced from each other around the periphery of the insulating body so that the base portion of the insulating body is in the form of the spline provided with the plurality of teeth (keys). The first receiving slots are formed in the base portion of the insulating body, thereby decreasing the material usage for manufacture of the insulating body and in turn reducing the manufacturing cost thereof. Besides, the thickness across the insulating body is thus relatively uniform, increasing the molding accuracy thereof.

[0035] Moreover, in some embodiments of the present invention, the pin of each conductive terminal is assembled in one corresponding through-hole in interference-fit manner, thereby preventing the relative movement of the pin from the insulating body, so that the positional accuracy of the pin is guaranteed. Furthermore, in one embodiment of the present invention, the base and pin of the conductive terminal are two individual components separated from each other, and a notch is formed within the base for enabling the direct electrical contact of the wire with the pin. Therefore, the base portion may be made of more inexpensive metal material rather than more expensive one, thereby decreasing the manufacturing cost thereof. In addition, in another embodiment of the present invention, the length of the base portion of the conductive terminal is decreased, reducing the material usage for manufacturing the terminal and in turn further reducing the manufacturing cost thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] The above and other features and advantages of the present invention will become more apparent and a more comprehensive understanding of the present invention can be obtained, by describing in detail exemplary embodiments thereof with reference to the accompanying drawings, in which:

Fig.1 illustrates a schematic perspective view of an insulating body and a plurality of conductive terminals of an electrical connector according to one exemplary embodiment of the present invention;
Fig.2 illustrates a sectional view of the plurality of conductive terminals mounted on the insulating body, as shown in Fig. 1;
Fig.3 illustrates a sectional view of the electrical connector according to the exemplary embodiment of the present invention;
Fig.4 is an illustrative partially enlarged sectional view of the electrical connector of Fig.3;
Fig.5 is a schematic perspective view of the conductive terminal of the electrical connector of Fig.3;
Fig.6 is a sectional view of the conductive terminal of the electrical connector of Fig.3;
Fig.7 is a sectional view of a seat of the conductive terminal of Fig.5;
Fig.8 illustrates a sectional view of a conductive terminal of an electrical connector according to another exemplary embodiment of the present invention; and
Fig.9 is a schematic perspective view of the electrical connector of Fig.3.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE IVENTION

[0037] Exemplary embodiments of the present disclosure will be described hereinafter in detail with reference to the attached drawings, wherein the like reference numerals refer to the like elements. The present disclosure may, however, be embodied in many different forms, and thus the detailed description of the embodiment of the invention in view of attached drawings should not be construed as being limited to the embodiment set forth herein; rather, these embodiments are provided so that the present disclosure will be thorough and complete, and will fully convey the general concept of the disclosure to those skilled in the art.

[0038] In the following detailed description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the disclosed embodiments. It will be apparent, however, that one or more embodiments may be practiced without these specific details. In other instances, well-known structures and devices are schematically shown in order to simplify the drawing.

[0039] According to a general technical concept of the present invention, there is provided an electrical connector, comprising: a housing; an insulating body received within the housing; and a plurality of first conductive terminals held in the insulating body. A plurality of first receiving slots are formed in an outer circumference surface of a base portion of the insulating body and spaced from each other around the outer circumference surface of the insulating body so that the base portion of the insulating body is in the form of a spline provided with a plurality of teeth; a plurality of first through-holes are formed in the insulating body, extend in an axial direction (longitudinal direction) of the insulating body, and communicated with the plurality of first receiving slots, respectively; and each first conductive terminals comprises a seat fitted in the first receiving slot and a pin inserted into the first through-hole.

[0040] Fig.1 illustrates a schematic perspective view of an insulating body 200 and a plurality of conductive terminals 300, 300'of an electrical connector according to one exemplary embodiment of the present invention; and Fig.2 illustrates a sectional view of the plurality of conductive terminals 300, 300' mounted on the insulating body 200 as illustrated in Fig. 1.

[0041] As shown in Fig.1, in one exemplary embodiment of the present invention, the electrical connector comprises a plurality of conductive terminals 300, 300'. In the illustrated embodiment, the electrical connector comprises four first conductive terminals 300 and one second conductive terminal 300'. However, the present invention is not limited to the illustrated embodiment, and the electrical connector may comprise two, three, five or more first conductive terminals 300.

[0042] As shown in Figs. 1 and 2, in the illustrated embodiment, a plurality of first receiving slots 210 are formed in outer circumference surface of a base portion of the insulating body 200and spaced from each other around the outer circumference surface of the insulating body 200 so that the base portion of the insulating body 200 is in the form of spline provided with a plurality of teeth (keys) 220; a plurality of first through-holes 211 are formed in the insulating body 200, extend in the axial direction (longitudinal direction) of the insulating body 200 and communicated with the first receiving slots 210, respectively; and each first conductive terminals comprises a seat 310 fitted in the first receiving slot 210 and a pin 320 inserted into the first through-hole 211.

[0043] Proceeding to refer to Figs. 1 and 2, in the illustrated embodiment, a second through-hole 202 is formed in the center of the insulating body 200 and extends in the axial direction of the insulating body 200; an axial projecting portion is formed on the end face of the base portion of the insulating body 200, a second receiving slot 201 being formed in the axial projecting portion and communicated with the second through-hole 202; and the second conductive terminal 300' comprises a seat 310' fitted in the second receiving slot 201 and a pin 320' inserted into the second through-hole 202.

[0044] In the illustrated embodiment, the second conductive terminal 300' is essentially identical to the first

conductive terminal 300, except that the length of the pin 320' of the second conductive terminal 300' is larger than that of the pin 320 of the first conductive terminal 300.

[0045] In the illustrated embodiment, since the plurality of first receiving slots are formed on the base portion of the insulating body, thereby decreasing the material usage for manufacture of the insulating body and in turn reducing the manufacturing cost thereof. Besides, the thickness across the insulating body is thus relatively uniform, increasing the molding accuracy thereof.

[0046] In an exemplary embodiment of the invention, as shown in Fig.1, an axial hole 222 is formed in each tooth (key) 220 of the base portion of the insulating body 200, so that the tooth between two adjacent first receiving slots 210 is formed as a hollowed-out structure. Hence, the material usage for manufacturing the insulating body 200 may be further decreased while the local thickness of the insulating body may also be reduced so that the thickness across the whole insulating body 200 is more uniform, which facilitates the enhancement of the molding accuracy thereof.

[0047] In an exemplary embodiment of the invention, as shown in Fig.1, an axial slot 221 is formed on outer periphery of each tooth 220 of the base portion of the insulating body 200. Hence, the material usage for manufacturing the insulating body 200 may be further decreased while the local thickness of the insulating body may also be further reduced so that the thickness across the whole insulating body 200 is more uniform, which facilitates the enhancement of the molding accuracy thereof.

[0048] Fig.3 illustrates a sectional view of the electrical connector according to the exemplary embodiment of the present invention; Fig.4 is an illustrative partially enlarged sectional view of the electrical connector of Fig.3; Fig.5 is a schematic perspective view of the conductive terminal 300 of the electrical connector of Fig.3; and Fig.9 is a schematic perspective view of the electrical connector of Fig.3.

[0049] As shown in Fig.9, in the illustrated embodiment, the external profile of the electrical connector is in the form of cylinder and thus may be called as cylindrical electrical connector. However, the invention is not limited to the illustrated embodiment, and the external profile thereof may be in other shape, e.g., rectangular shape.

[0050] As shown in Figs.3, 4 and 5, in one exemplary embodiment of the present invention, the electrical connector primarily comprises a housing 100, the insulating body 200 and at least one conductive terminal 300 as mentioned in the above embodiments.

[0051] Referring to Fig.3, in the illustrated embodiment, the housing 100 is composed of several interconnected portions and may be formed as a shielding housing made of metal. The insulating body 200, which may be molded of plastics, is received within such housing 100. And the conductive terminal 300 is held within such insulating body 200.

[0052] Since substantially all the features of the first conductive terminal 300' and the first conductive terminal 300 may be formed as identical to each other except that their respective pins differ in length, then only the first conductive terminal 300 is taken as an example as below, for description purpose.

[0053] Proceeding to refer to Figs.3, 4 and 5, in one embodiment of the present invention, the conductive terminal 300 comprises a blocky seat 310 and an elongated pin 320. The seat 310 and the pin 320 are constructed as two individual components which are separated from each other but are assembled together.

[0054] As shown in Fig.3, the seat 310 is held within the first receiving slots 210 of the insulating body 200. A rear end (right end) of the pin 320 is inserted into the seat 310, and a front end (front end) of the pin 320 is extends from the insulating body 200 in the longitudinal direction through the first through-hole 211. In the illustrated embodiment, the rear end of the pin 320 is provided for establishing electrical connection with a wire (not illustrated) inserted into the seat 310, and the front end of the pin 320 projecting from the insulating body 200 is provided for establishing electrical connection with a further conductive terminal of mated with the electrical connector.

[0055] As shown clearly in Figs.1, 2, 4 and 5, in one exemplary embodiment of the present invention, the pins 320 of the first conductive terminals 300 and the pin 320' of the second conductive terminal 300' are assembled in the first and second through-holes 211, 202 in interference-fit manner, respectively. Therefore, when the wire is pressed by a screw 400 (as shown in Fig.3), the relative movement of the pin 320 from the insulating body 200 is prevented so that the positional accuracy of the pin 320 may also be guaranteed.

[0056] As shown in Figs.4 and 5, in one embodiment of the present invention, the pin 320 comprises a plurality of sections 323, 324 with different diameters, which sections 323, 324 are assembled in the insulating body 200 in interference-fit manner.

[0057] In the illustrated embodiment, as shown in Figs.4 and 5, the pin 320 comprises a first section 323 adjacent to the seat 310 and a second section 324 away from the seat 310, the diameter of the first section 323 being larger than that of the second section 324; and the first section 323 and the second section 324 are assembled in the insulating body 200 in interference-fit manner.

[0058] In order to enhance the engagement strength between the pin 320 and the insulating body 200, in one illustrative embodiment of the present invention, as shown in Figs.4 and 5, at least one barb 321, 322 is formed on the pin 320 and engaged within the insulating body 200 so as to avoid movement of the pin 320 relative to the insulating body 200.

[0059] Proceeding to refer to Figs.4 and 5, in the illustrated embodiment, a first barb 321 and a second barb 322 spaced apart from the first barb 321 in the longitudinal direction are formed on the pin 320. Each barb 321, 322 may be formed as a conical ring projecting from the

outer surface of the pin 320.

[0060] Fig.6 is a sectional view of the conductive terminal of the electrical connector 300 of Fig.3; while Fig.7 is a sectional view of the seat 310 of the conductive terminal 300 of Fig.5.

[0061] As shown in Figs.6 and 7, a first axial hole 314 is formed the seat 310, and an end portion 325 (the rear end in Fig.6) of the pin 320 is inserted into the first axial hole 314 of the seat 310.

[0062] In one embodiment of the present invention, a trench 3251 is formed in one of the outer wall of the end portion 325 of the pin 320 and the inner wall of the first axial hole 314 of the seat 310; and a projection 3141 is formed on the other of the outer wall of the end portion 325 of the pin 320 and the inner wall of the first axial hole 314 of the seat 310, and the projection 3141 is engaged with the trench 3251 when the end portion 325 of the pin 320 is inserted into the first axial hole 314 of the seat 310, thereby holding the rear end 325 of the pin 320 within the first axial hole 314.

[0063] As shown in Figs.3, 6 and 7, in the illustrated embodiment, a second axial hole 311 parallel to the first axial hole 314 is further formed in the seat 310, and one end of aforementioned wire is inserted into said second axial hole 311.

[0064] As shown in Figs. 3, 6 and 7, in one exemplary embodiment of the present invention, a radial threaded hole 312 is formed on the seat 310, and the screw 400 is threaded within the threaded hole 312 of the seat 310, and the wire which is inserted into the second axial hole 311 is pressed against the inner wall of the second axial hole 311 by rotating the screw 400, so that the wire is electrically connected with the seat 310, and in turn electrically connected to the pin 310 via such conductive seat 310.

[0065] As shown in Figs.3, 6 and 7, in the illustrated embodiment, a notch 313 for communicating the first axial hole 314 and the second axial hole 311 is formed in the seat 310; and then the wire is projecting towards and in direct electrical contact with the pin 310 of the first axial hole 314 via the notch 313, upon compression of the screw 400 which is threaded onto the seat 310. Thereby, the contact resistance may be decreased and conductivity performance may be thus improved, by placing the wire in direct electrical contact with the pin 310.

[0066] In one exemplary embodiment of the present invention, the pin 320 is made of a first material while the seat 310 is made of a second material which differs from that first material and has an inferior conductivity performance to that of the first material.

[0067] In one exemplary embodiment of the present invention, the pin 320 is made of copper while the seat 310 is made of aluminum or aluminum alloy. Therefore, the seat 310 may not necessarily be made of expensive copper so as to facilitate reducing the cost of manufacture thereof.

[0068] Fig.8 illustrates a sectional view of a conductive terminal of an electrical connector according to another exemplary embodiment of the present invention.

[0069] The conductive terminal illustrated in Fig.8 only differs from that illustrated in Fig.7 in the shape of the notch. In the embodiment illustrated in Fig.7, the notch is formed as a rectangular shape while in the embodiment shown in Fig.8 the notch is formed as a shape of ellipse. However, the present invention is not limited to the illustrated embodiment, and such notch may be of any appropriate shape, for example, circular shape.

[0070] In one exemplary embodiment of the present invention, as shown in Figs.3, 5, 6 and 8, the length of the seat 310 in the axial direction is less than half of the total longitudinal length of the conductive terminal 300. Therefore, the material usage for the manufacture of the conductive terminal 300 is further decreased by reducing the length of the seat 310, thereby further decreasing the manufacturing cost thereof.

[0071] In one exemplary embodiment of the present invention, the longitudinal length of the base portion 310 may be set as 01-0.4 times of the total longitudinal length of the conductive terminal 300.

[0072] It should be appreciated for those skilled in this art that the above embodiments are intended to be illustrated, and not restrictive. For example, many modifications may be made to the above embodiments by those skilled in this art, and various features described in different embodiments may be freely combined with each other without conflicting in configuration or principle.

[0073] Although the disclosure is described in view of the attached drawings, the embodiments disclosed in the drawings are only intended to illustrate the preferable embodiment of the present invention exemplarily, and should not be deemed as a restriction thereof.

[0074] Although several exemplary embodiments of the general concept of the present invention have been shown and described, it would be appreciated by those skilled in the art that various changes or modifications may be made in these embodiments without departing from the principles and spirit of the disclosure, the scope of which is defined in the claims and their equivalents.

[0075] As used herein, an element recited in the singular and proceeded with the word "a" or "an" should be understood as not excluding plural of said elements or steps, unless such exclusion is explicitly stated. Furthermore, references to "one embodiment" of the present invention are not intended to be interpreted as excluding the existence of additional embodiments that also incorporate the recited features. Moreover, unless explicitly stated to the contrary, embodiments "comprising" or "having" an element or a plurality of elements having a particular property may include additional such elements not having that property.

Claims

1. An electrical connector, comprising:

a housing (100);
aninsulating body (200) received within the housing (100); and
a plurality of first conductive terminals (300) held in the insulating body (200),
wherein a plurality of first receiving slots are formed in an outer circumference surface of a base portion of the insulating body and spaced from each other around the outer circumference surface of the insulating body so that the base portion of the insulating body is in the form of a spline provided with a plurality of teeth;
wherein a plurality of first through-holes are formed in the insulating body, extend in an axial direction of the insulating body, and communicated with the plurality of first receiving slots, respectively; and
wherein each first conductive terminals comprises a seat fitted in the first receiving slot and a pin inserted into the first through-hole.

2. The electrical connector according to claim 1, wherein a second through-hole (202) is formed in the center of the insulating body (200) and extends in the axial direction of the insulating body (200); and
an axial projecting portion is formed on an end surface of the base portion of the insulating body (200), a second receiving slot (201) being formed on the axial projecting portion and communicated with the second through-hole (202); and
wherein the electrical connector further comprises a second conductive terminal (300') which comprises a seat (310') fitted in the second receiving slot (201) and a pin (320') inserted into the second through-hole (202).

3. The electrical connector according to claim 2, wherein an axial hole (222) is formed in each tooth (220) of the base portion of the insulating body (200).

4. The electrical connector according to claim 3, wherein an axial slot (221) is formed in outer periphery of each tooth (220) of the base portion of the insulating body (200).

5. The electrical connector according to claim 4, wherein the pins of the plurality of first conductive terminals (300) and the second conductive terminal (300') are assembled in the first and second through-holes (211, 202) in interference-fit manner, respectively.

6. The electrical connector according to claim 5, wherein each pin comprises a plurality of sections (323, 324) with different diameters, which are assembled in the insulating body (200) in interference-fit manner.

7. The electrical connector according to claim 6, wherein the pin comprises a first section (323) adjacent to the seat (310) and a second section (324) away from the seat (310), the diameter of the first section (323) being larger than that of the second section (324).

8. The electrical connector according to claim 7, wherein at least one barb (321, 322) is formed on the pin (320) and engaged within the insulating body (200) so as to avoid movement of the pin (320) relative to the insulating body (200).

9. The electrical connector according to claim 8, wherein a first barb (321) and a second barb (322) which is spaced apart from the first barb (321) in the axial direction are formed on the pin (320).

10. The electrical connector according to claim 1, wherein a first axial hole (314) is formed in the seat (310), and an end portion (325) of the pin (320) is inserted into the first axial hole (314) of the seat (310).

11. The electrical connector according to claim 10, wherein a trench (3251) is formed in one of the outer wall of the end portion (325) of the pin (320) and the inner wall of the first axial hole (314) of the seat (310); and
a projection (3141) is formed on the other of the outer wall of the end portion (325) of the pin (320) and the inner wall of the first axial hole (314) of the seat (310),
wherein the projection (3141) is engaged with the trench (3251) when the end portion (325) of the pin (320) is inserted into the first axial hole (314) of the seat (310).

12. The electrical connector according to claim 10, wherein a second axial hole (311) parallel to the first axial hole is further formed in the seat (310) to receive a wire therein.

13. The electrical connector according to claim 12, wherein the wire is pressed against an inner wall of the second axial hole (311) by a screw (400) threaded into the seat (310) so that the wire is electrically connected with the seat (310) and thereby with the pin via the seat (310).

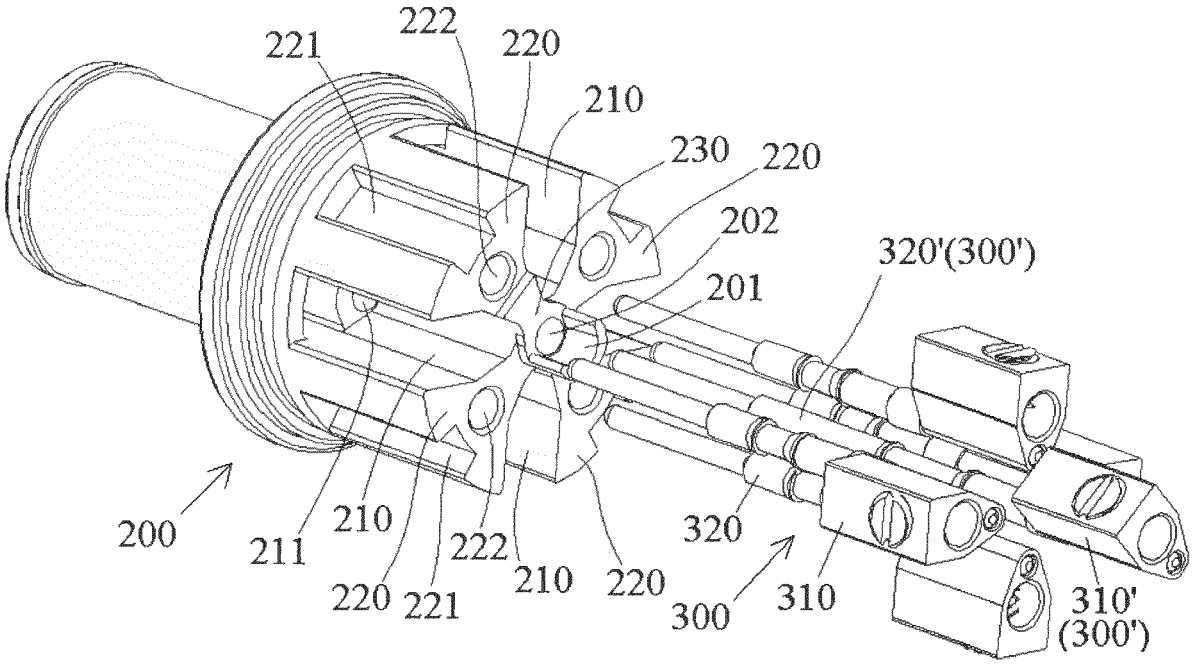
14. The electrical connector according to claim 12, wherein a notch (313) for communicating the first axial hole (314) and the second axial hole (311) is formed in the seat (310); and
wherein the wire projects towards and comes into direct electrical contact with the pin (310) located in the first axial hole (314) via the notch (313), upon compression of the screw (400) which is threaded onto the seat (310).

15. The electrical connector according to claim 14, wherein the notch is in the form of one of a group

comprising: rectangular shape, circular shape or elliptical shape.

16. The electrical connector according to claim 5, wherein the length of the seat portion (310) is less than half of the total length of the first conductive terminal (300).

17. The electrical connector according to claim 16, wherein the length of the seat portion (310) is 01-0.4 times of the total length, of the first conductive terminal (300).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300
310
310'
(300')

Fig.1

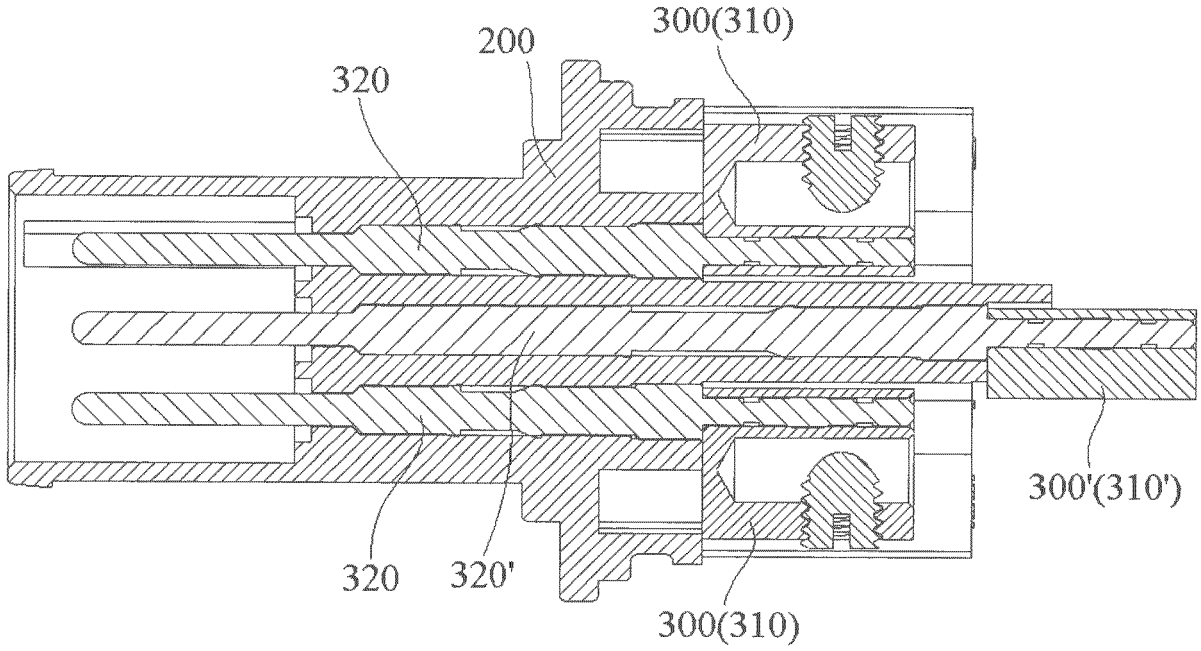

Fig.2

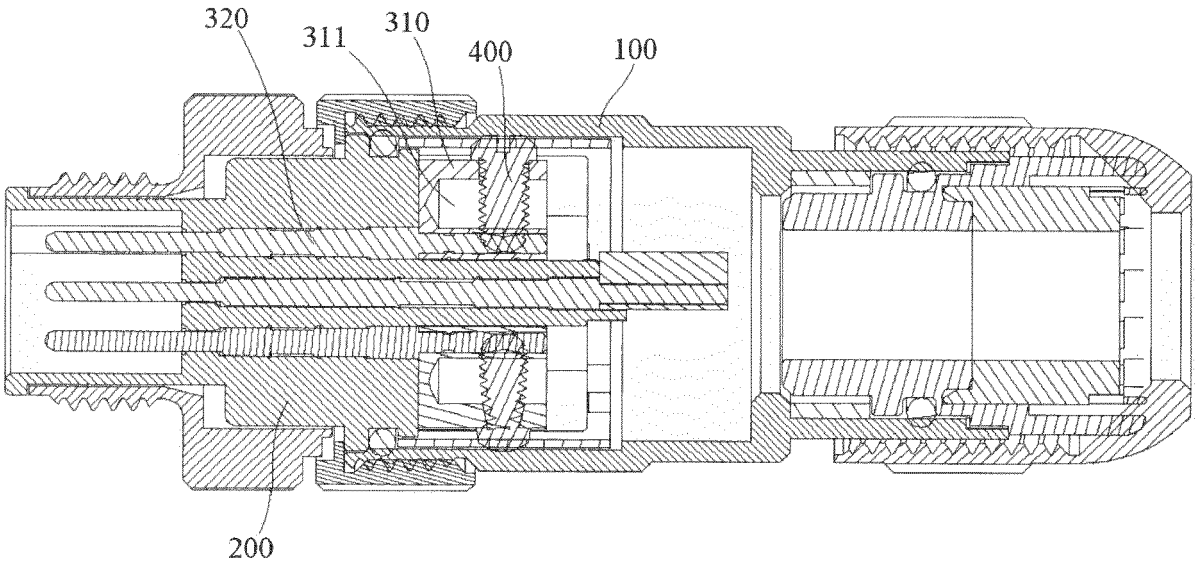

Fig.3

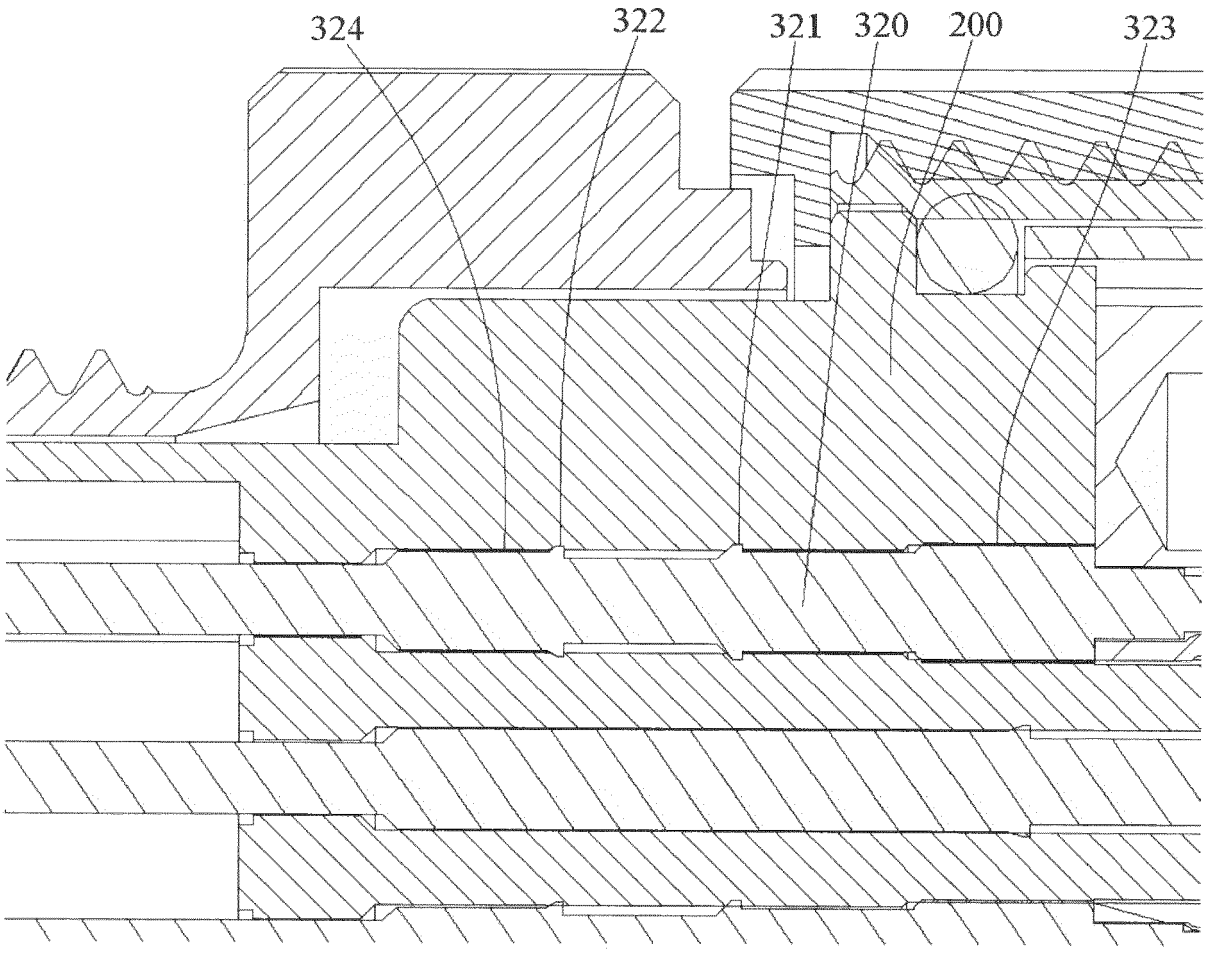

Fig.4

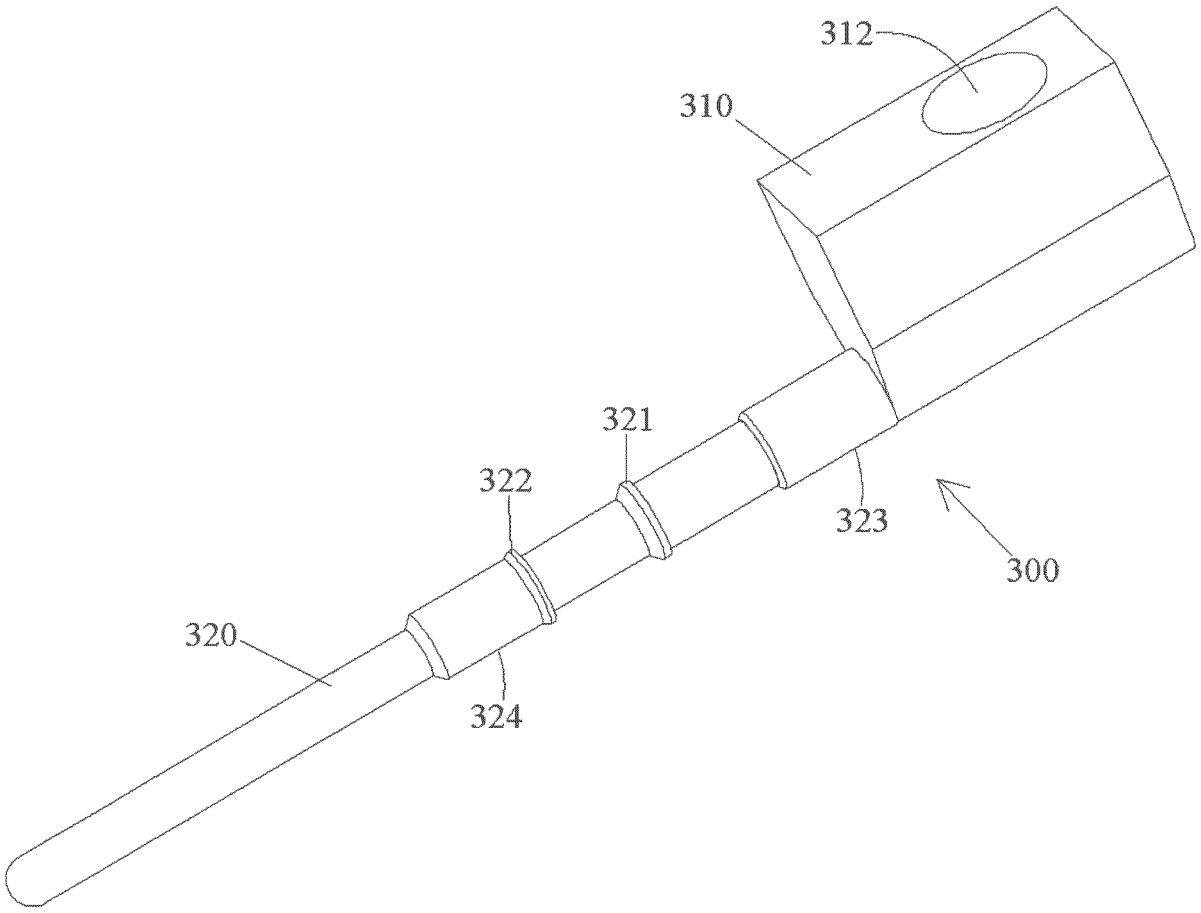

Fig.5

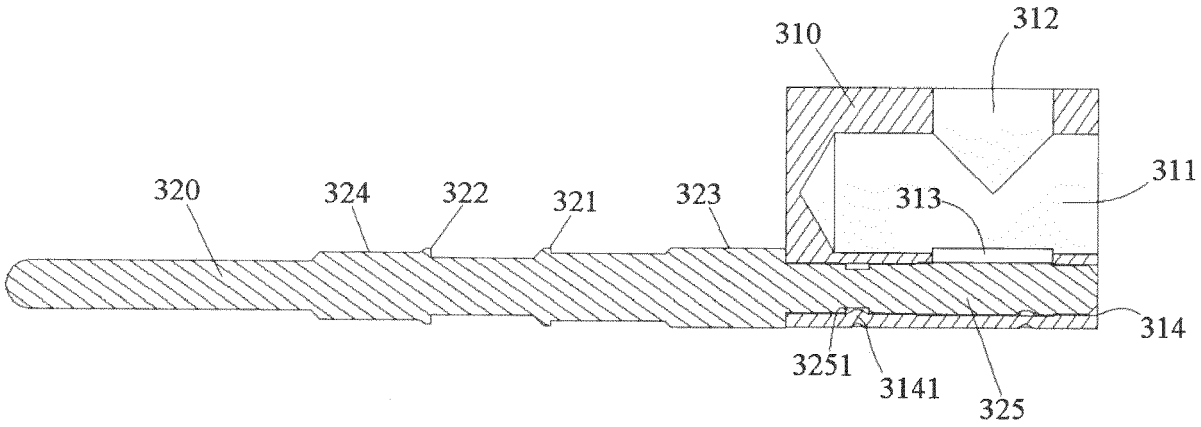

Fig.6

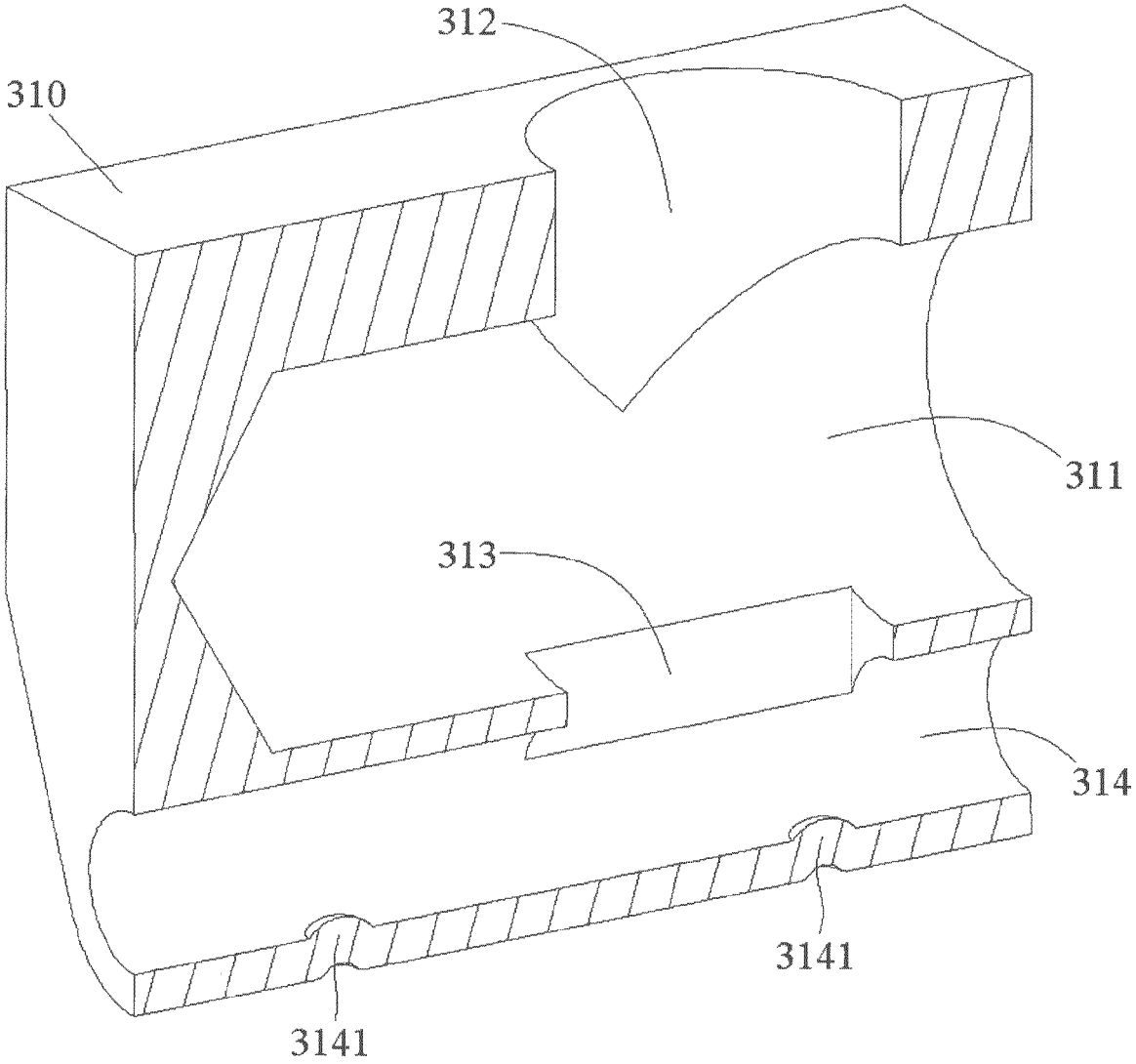

Fig.7

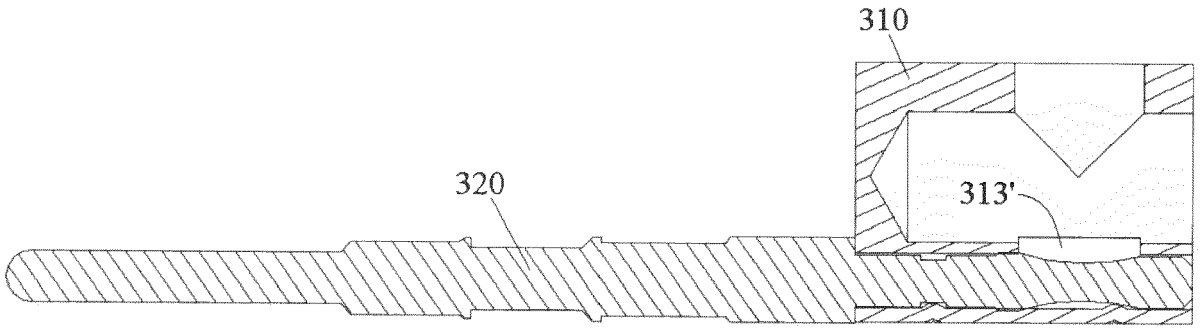

Fig.8

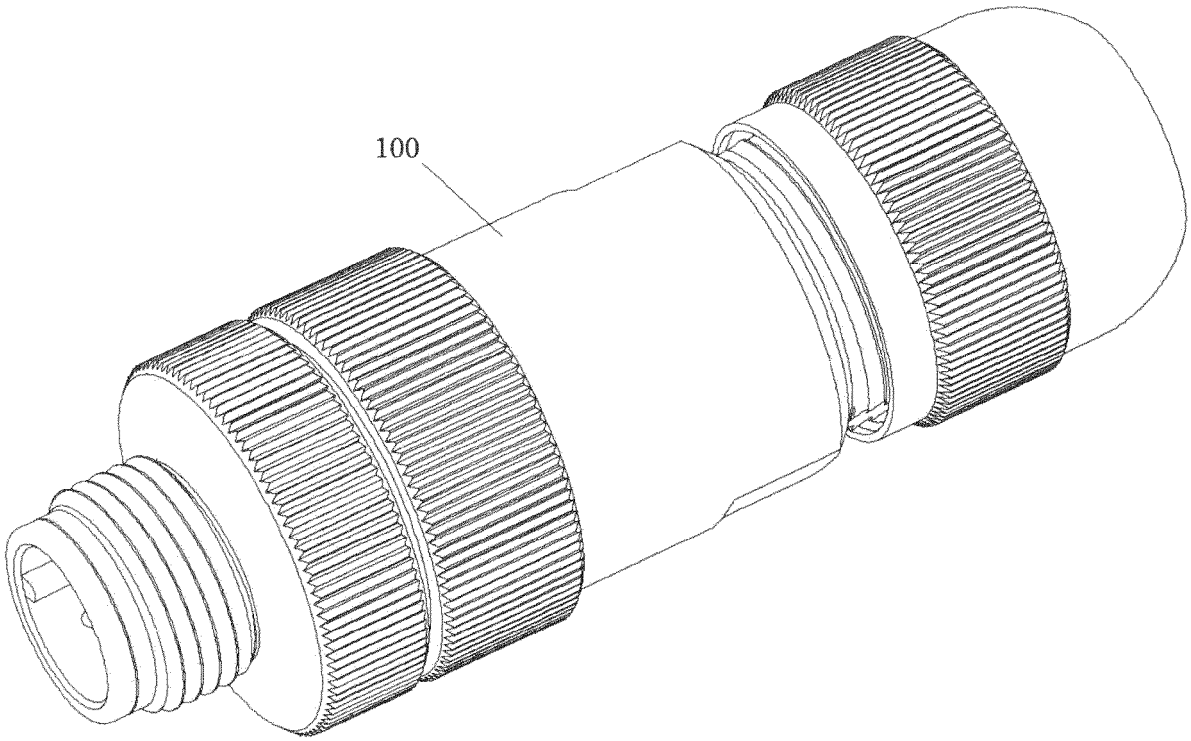

Fig.9

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EUROPEAN SEARCH REPORT

Application Number
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Y	* paragraphs [0046] - [0049]; figures 7, 8 *	2-9,16, 17	H01R4/36 H01R13/41 H01R43/20 H01R13/50
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Place of search	Date of completion of the search	Examiner
The Hague	24 June 2016	Criqui, Jean-Jacques

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