

(19)



(11)

EP 4 007 078 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent:
12.02.2025 Bulletin 2025/07

(51) International Patent Classification (IPC):
H01R 9/05 (2006.01) H01R 24/56 (2011.01)
H01R 4/70 (2006.01)

(21) Application number: **21857011.7**

(52) Cooperative Patent Classification (CPC):
H01R 9/0524; H01R 4/70; H01R 24/56

(22) Date of filing: **08.05.2021**

(86) International application number:
PCT/CN2021/092288

(87) International publication number:
WO 2022/062418 (31.03.2022 Gazette 2022/13)

(54) **INSTALLATION STRUCTURE OF LEAKY CABLE CONNECTOR, AND LEAKY CABLE CONNECTOR**

INSTALLATIONSSTRUKTUR EINES UNDICHTEN KABELVERBINDERS UND UNDICHTER KABELVERBINDER

STRUCTURE D'INSTALLATION D'UN CONNECTEUR DE CÂBLE À FUITE, ET CONNECTEUR DE CÂBLE À FUITE

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

- **GU, Wenjie**
Nantong, Jiangsu 226010 (CN)
- **ZHENG, Jianqiu**
Nantong, Jiangsu 226010 (CN)
- **JI, Yunfei**
Nantong, Jiangsu 226010 (CN)

(30) Priority: **27.09.2020 CN 202011037583**

(43) Date of publication of application:
01.06.2022 Bulletin 2022/22

(74) Representative: **Groth & Co. KB**
P.O. Box 6107
102 32 Stockholm (SE)

(73) Proprietor: **Zhongtian Radio Frequency Cable Co., Ltd**
Nantong, Jiangsu 226010 (CN)

(56) References cited:
CN-A- 101 075 707 CN-A- 101 106 222
CN-A- 101 841 108 CN-A- 112 201 977
DE-A1- 19 944 491 US-A- 5 938 465
US-A1- 2005 118 865 US-A1- 2013 323 968
US-B1- 6 884 113

(72) Inventors:
 • **HAN, Guangyin**
Nantong, Jiangsu 226010 (CN)
 • **FENG, Liangping**
Nantong, Jiangsu 226010 (CN)

EP 4 007 078 B1

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description**TECHNICAL FIELD**

[0001] The present application relates to the technical field of cable connectors, and specifically to a mounting structure for a leaky cable connector and a leaky cable connector.

BACKGROUND

[0002] Due to the special structural constraints of leaky cables, at present, quick installation is seldom considered in the design of existing commercially available leaky cable connectors, and shells of a radio frequency leaky cable connector in the industry are usually screwed and fixed on a leaky cable by threads. In one method, a copper sheet of an external conductor of a leaky cable is flanged. An outer copper sheet on an end surface of the flanged leaky cable is clamped within a pressure surface of front and rear shells of the connector. The copper sheet is fixed by forces of the tightened front and rear shells, to transfer electrical properties. This mounting method is more complex. The separate rear shell needs to be mounted first, a flange is made on the structure of the rear shell, and then the front shell is mounted and tightened. This manner is non-integral mounting. In another method, a contact member structure with an embedded spring coil is used at a contact position of a copper sheet of a leaky cable. However, the spring coil is an elastic slotted structure and is prone to deformation. After coming into radial contact, the contact member with the spring coil and an external conductor of a cable cannot be compressed. A 360-degree reliable contact cannot be achieved to obtain high contact pressure. The connection tends to fail. The stability of dynamic intermodulation is poor in special application environments. The contact member with the spring coil tends to deviate from the normal value and cannot be used repeatedly. After a mounting failure occurs, the spring coil is prone to damage when the contact member is pulled out and as a result can no longer be used. In still another method, a slotted cable clamp with a closed ring or a C-shaped opening is used. The method has low stability, and the connector tends to fall off.

[0003] Publication US 2005/0118865 A1, which discloses the preamble of independent claim 1, shows a coaxial connector consisting of a back nut, outer and inner terminals, and an insulator. The back nut is made of a single tubular piece and does not enclose any further parts. In connecting a coaxial cable to the connector, the cable is inserted through the back nut, and a portion of the outer conductor at the end of the cable is flared and shaped along a tapered clamping face of the back nut. The back nut is then axially displaced, as by threading the back nut over the outer terminal, to clamp the flared end of the outer conductor of the coaxial cable between the outer terminal of the connector and the back nut thereof.

[0004] Publication US 2013/0323968 A1 shows a connector for cables with a plurality of connector members including a first connector member, a second connector member, and a conductive pin. The connector members cooperate to engage an end of a cable.

[0005] Publication US 6 884 113 B1 shows a permanent connector that interconnects a hard-line coaxial cable to a connection housing. A contact is interconnected with and extends coaxially through a connector body. A collet one-piece with the contact receives a central conductor of the coaxial cable, while a sealing member and mandrel receive an outer conductor of the coaxial cable between them. A compression body positioned radially adjacent a portion of the connector body moves axially between first and second positions, wherein when the compression body is in its first position, the coaxial cable is removable from within the connector, and when the compression body is in its second position, the coaxial cable is not removable from within the connector. The compression body acts indirectly upon the sealing member so that an electrical connection is made between the sealing member and the outer conductor of the cable when the compression body is in its second position.

SUMMARY

[0006] Therefore, a technical problem to be resolved by the present application is to provide a mounting structure for a leaky cable connector and a leaky cable connector that have reliable connection and adequate use performance to overcome the disadvantage that a leaky cable connector and a leaky cable in the prior art have low connection stability and tend to fall off to affect the use performance.

[0007] To resolve the foregoing technical problems, the present application provides a mounting structure for a leaky cable connector, including:

a first shell and a second shell that are sleeved with each other, where the first shell is disposed inside, the second shell is disposed outside, and a mounting space allowing a leaky cable to pass through is provided in each of the first shell and the second shell; and

a cable clamp, disposed at a connection between the first shell and the second shell, where a gap allowing insertion of an external conductor of the leaky cable is provided between the cable clamp and the first shell, and when the leaky cable is inserted in the mounting spaces, the cable clamp is subjected to a force to move toward the first shell to fasten the external conductor of the leaky cable, wherein the first shell is formed with an assembly space allowing insertion of the cable clamp under the action of an external force, and correspondingly, the cable clamp is formed with a protrusion adapting to the assembly space, and

the other end of the cable clamp opposite to the protrusion is provided with a first limiting member, the first shell is provided with a second limiting member matching the first limiting member, and the first limiting member climbs over the second limiting member under the action of an external force to insert the protrusion in the assembly space for fastening.

[0008] Optionally, an end surface of at least one of the cable clamp or the first shell facing the gap is a tapered surface.

[0009] Optionally, an end surface of the cable clamp facing the gap is a tapered surface with an inner diameter gradually increasing from one end close to the second shell to the other end close to the first shell, and an end surface of the first shell facing the gap is formed by at least two partial inclined surfaces.

[0010] Optionally, a third limiting member and a fourth limiting member are disposed at an interval in an axial direction in the second shell, a first sealing member, a housing, and a pressure ring are sequentially disposed between the third limiting member and the fourth limiting member, the pressure ring abuts against the fourth limiting member, the first sealing member abuts against the third limiting member, and the housing abuts against both the first sealing member and the pressure ring.

[0011] Optionally, the housing is provided with a tapered surface matching the cable clamp, to apply a radial pressing force to the cable clamp under the action of an external force.

[0012] Optionally, an annular groove is provided in a contact surface between the first shell and the second shell, and a second sealing member is disposed inside the annular groove.

[0013] Optionally, the first shell and the second shell are assembled by interference fit.

[0014] Further provided is a leaky cable connector, including the mounting structure for a leaky cable connector of the present application.

[0015] The technical solution of the present application has the following advantages:

1. By the mounting structure for a leaky cable connector provided in the present application, when a leaky cable sequentially passes through the mounting spaces in the second shell and the first shell, under the action of an external force, the external conductor of the leaky cable is inserted in the space between the cable clamp and the first shell, and is fastened by an applied force on the cable clamp toward the first shell. The gap is provided to increase a contact area between the external conductor of the leaky cable and the mounting structure and a positive pressure, so that the connection becomes more reliable and stable, thereby ensuring the use performance.
2. By the mounting structure for a leaky cable con-

connector provided in the present application, the end surface of the cable clamp facing the gap is a tapered surface with an inner diameter gradually increasing from one end close to the second shell to the other end close to the first shell, and the end surface of the first shell facing the gap is formed by at least two partial inclined surfaces. The tapered surface and the at least two partial inclined surfaces are provided to further increase the contact area between the mounting structure and the external conductor of the leaky cable, thereby improving the reliability and stability of the connection, and resolving the problems of inadequate contact on a contact bonding surface through which a radio frequency current flows and poor intermodulation of a transmission system caused by a nonlinear characteristic.

3. By the mounting structure for a leaky cable connector provided in the present application, the first sealing member in the second shell and the second sealing member on the contact surface between the first shell and the second shell are provided, so that the problem of water leakage in waterproofing using a conventional mastic tape is resolved, thereby improving waterproof sealing performance.

4. By the mounting structure for a leaky cable connector provided in the present application, the first shell and the second shell are assembled by interference fit, so that fast installation is implemented, a conventional tool such as a spanner or a utility knife is not required, the labor intensity is reduced, and the mounting efficiency is improved.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

FIG. 1 is a schematic half sectional view of a mounting structure for a leaky cable connector according to the present application;

FIG. 2 is a partial schematic enlarged view of FIG. 1; FIG. 3 is a partial schematic diagram when a leaky cable and a mounting structure are assembled; and FIG. 4 is a schematic diagram of another mounting manner of a pressure ring and a shell.

[0017] Reference numerals:

1. first shell; 2. second shell; 3. leaky cable; 4. cable clamp; 5. assembly space; 6. protrusion; 7. gap; 8. first limiting member; 9. second limiting member; 10. jack socket; 11. central conductor; 12. riveting tube; 13. insulator; 14. first sealing member; 15. housing; 16. pressure ring; 17. annular groove; and 18. second sealing member.

DETAILED DESCRIPTION

[0018] FIG. 1 to FIG. 3 show a specific embodiment of a mounting structure for a leaky cable connector, including

a first shell 1 and a second shell 2 that are sleeved with each other in an axial direction. The first shell 1 and the second shell 2 are assembled by interference fit. The first shell 1 is disposed inside. The second shell 2 is disposed outside. A mounting space allowing a leaky cable 3 to pass through is provided in each of the first shell 1 and the second shell 2.

[0019] A cable clamp 4 is disposed at a connection between the first shell 1 and the second shell 2. An inner circumference of the first shell 1 is formed with an assembly space 5 allowing insertion of the cable clamp 4 under the action of an external force. Correspondingly, the cable clamp 4 is formed with a protrusion 6 adapting to the assembly space 5, and extends in a direction of the assembly space 5 away from the first shell 1. A gap 7 allowing insertion of an external conductor of the leaky cable 3 is provided between a main body of the cable clamp 4 and the first shell 1. When no leaky cable 3 passes through the mounting spaces in the first shell 1 and the second shell 2, the other end of the cable clamp 4 opposite to the protrusion 6 is provided with a step used as a first limiting member 8, and the first shell 1 is provided with a bump used as a second limiting member 9 matching the first limiting member 8. Therefore, the cable clamp 4 is limited at a current position. When the leaky cable 3 and the mounting structure are assembled, that is, as the leaky cable 3 gradually passes through the mounting spaces in the second shell 2 and the first shell 1, the first limiting member 8 climbs over the second limiting member 9 under the action of an external force to insert the protrusion 6 in the assembly space 5 for fastening, and at the same time the cable clamp 4 is subjected to a force to move toward the first shell 1 to fasten the external conductor of the leaky cable 3.

[0020] A plurality of channels are provided in the cable clamp 4, and a barb is disposed on an inner wall of the cable clamp 4. When the cable clamp 4 is subjected to a force to fasten the external conductor of the leaky cable 3, the barb is clamped in an outer sheath of the leaky cable 3, thereby improving the stability of mounting. A stepped surface is provided on a side of the barb. During the mounting of the leaky cable 3, the stepped surface abuts against the outer sheath of the leaky cable 3, to limit a mounting size of the leaky cable 3.

[0021] Specifically, an end surface of the cable clamp 4 facing the gap 7 is a tapered surface with an inner diameter gradually increasing from one end close to the second shell 2 to the other end close to the first shell 1, and an end surface of the first shell 1 facing the gap 7 is formed by two partial inclined surfaces. The two partial inclined surfaces form an arc-shaped surface protruding outward away from the gap 7.

[0022] A radial end surface of the first shell 1 located in the second shell 2 contacts an end surface of a foaming layer of the leaky cable 3, to limit the movement of the leaky cable 3. An internal conductor is disposed in an axial direction in the first shell 1. The internal conductor includes a jack socket 10, a central conductor 11, and a

riveting tube 12 that are sequentially disposed. A first step is disposed on one side of the central conductor 11 close to the riveting tube 12. A blind hole is provided at a central position. A through hole matching the first step is provided in the riveting tube 12. The blind hole is expanded to fasten the riveting tube 12 on the central conductor 11 in a riveting manner. The other side of the central conductor 11 close to the jack socket 10 is provided with a second step. The second step is provided with an insulator 13, and the jack socket 10 and the central conductor 11 are fastened by interference fit. The jack socket 10 further limits the axial movement of the insulator 13. The insulator 13 matches the first shell 1, to fasten the internal conductor inside the first shell 1.

[0023] A third limiting member and a fourth limiting member are disposed at an interval in an axial direction in the second shell 2. The third limiting member and the fourth limiting member are respectively stepped surfaces formed in the middle of the second shell 2 and at an end of the second shell 2 away from the first shell 1. A first sealing member 14, a housing 15, and a pressure ring 16 are sequentially disposed between the third limiting member and the fourth limiting member. The pressure ring 16 abuts against the fourth limiting member, to position the pressure ring 16, and the pressure ring 16 is assembled with the second shell 2 by interference fit. The first sealing member 14 abuts against the third limiting member. The housing 15 abuts against both the first sealing member 14 and the pressure ring 16. The pressure ring 16 limits that the first sealing member 14 and the housing 15 can only move between the third limiting member and a left end of the pressure ring 16. It is avoided that the housing 15 moves rightward in a free state to apply a force to the cable clamp 4, and as a result the gap between the cable clamp 4 and the first shell 1 is reduced to affect the insertion of the external conductor of the leaky cable 3. When moving in a direction away from the first shell 1, the housing 15 presses the first sealing member 14 to implement sealing and waterproofing.

[0024] To further improve the stability of the connection, an end surface of the cable clamp 4 away from the axis of the first shell 1 is also a tapered surface. The housing 15 is provided with a tapered surface matching the cable clamp 4, to apply a radial pressing force to the cable clamp 4 under the action of an external force, so that the diameter of the cable clamp 4 decreases, and the barb inside is clamped in the outer sheath of the leaky cable 3, to further lock the leaky cable 3.

[0025] To further improve the sealing and waterproof performance, an annular groove 17 is provided in a contact surface between the first shell 1 and the second shell 2, and a second sealing member 18 is disposed inside the annular groove 17.

[0026] Further provided is a leaky cable connector, including the mounting structure for a leaky cable connector.

[0027] Before the leaky cable 3 is assembled, the connector is preassembled to form a whole. The leaky

cable 3 requires foaming and coring. During mounting, the prepared leaky cable 3 is inserted in the connector from the second shell 2, until the leaky cable 3 abuts against the first shell 1 and can be no longer pushed. With the unique design of the first shell 1, the second shell 2, and the cable clamp 4, the leaky cable 3 may be smoothly inserted in the connector, and does not cause the movement of any part. After the leaky cable 3 is pushed to position, an assembly is placed in a dedicated fixture for press fit. With the press fit, the slotted position of the cable clamp 4 is pressed to deform, and the barb is clamped in the outer sheath of the leaky cable 3. The external conductor of the leaky cable 3 is pressed on the tapered surfaces of the cable clamp 4 and the first shell 1, to complete mounting.

[0028] In an alternative embodiment, end surfaces of the cable clamp 4 and the first shell 1 facing the gap 7 may also be tapered surfaces. In this case, the cable clamp 4 and the first shell 1 form the annular gap 7.

[0029] In an alternative embodiment, as shown in FIG. 4, an end surface of the pressure ring 16 facing the housing 15 is formed with a wedged surface. Correspondingly, an end surface of the housing 15 facing the pressure ring 16 is formed with a wedged protrusion adapting to the wedged surface, so that a limiting function can be implemented.

Claims

1. A mounting structure for a leaky cable connector, comprising:

a first shell (1) and a second shell (2) that are sleeved with each other, wherein the first shell (1) is disposed inside, the second shell (2) is disposed outside, and a mounting space allowing a leaky cable (3) to pass through is provided in each of the first shell (1) and the second shell (2); and

a cable clamp (4), disposed at a connection between the first shell (1) and the second shell (2), wherein a gap (7) allowing insertion of an external conductor of the leaky cable (3) is provided between the cable clamp (4) and the first shell (1), and when the leaky cable (3) is inserted in the mounting spaces, the cable clamp (4) is subjected to a force to move toward the first shell (1) to fasten the external conductor of the leaky cable (3),

characterized in that the first shell (1) is formed with an assembly space (5) allowing insertion of the cable clamp (4) under the action of an external force, and correspondingly, the cable clamp (4) is formed with a protrusion (6) adapting to the assembly space (5), and **in that** the other end of the cable clamp (4)

opposite to the protrusion (6) is provided with a first limiting member (8), the first shell (1) is provided with a second limiting member (9) matching the first limiting member (8), and the first limiting member (8) climbs over the second limiting member (9) under the action of an external force to insert the protrusion (6) into the assembly space (5) for fastening.

2. The mounting structure for a leaky cable connector according to claim 1, wherein an end surface of at least one of the cable clamp (4) or the first shell (1) facing the gap (7) is a tapered surface.
3. The mounting structure for a leaky cable connector according to claim 2, wherein an end surface of the cable clamp (4) facing the gap (7) is a tapered surface with an inner diameter gradually increasing from one end close to the second shell (2) to the other end close to the first shell (1), and an end surface of the first shell (1) facing the gap (7) is formed by at least two partial inclined surfaces.
4. The mounting structure for a leaky cable connector according to any one of claims 1 to 3, wherein a third limiting member and a fourth limiting member are disposed at an interval in an axial direction in the second shell (2), a first sealing member (14), a housing (15), and a pressure ring (16) are sequentially disposed between the third limiting member and the fourth limiting member, the pressure ring (16) abuts against the fourth limiting member, the first sealing member (14) abuts against the third limiting member, and the housing (15) abuts against both the first sealing member (14) and the pressure ring (16).
5. The mounting structure for a leaky cable connector according to claim 4, wherein the housing (15) is provided with a tapered surface matching the cable clamp (4) to apply a radial pressing force to the cable clamp (4) under the action of an external force.
6. The mounting structure for a leaky cable connector according to any one of claims 1 to 5, wherein an annular groove (17) is provided in a contact surface between the first shell (1) and the second shell (2), and a second sealing member (18) is disposed inside the annular groove (17).
7. The mounting structure for a leaky cable connector according to any one of claims 1 to 6, wherein the first shell (1) and the second shell (2) are assembled by interference fit.
8. A leaky cable connector, comprising the mounting structure for a leaky cable connector according to any one of claims 1 to 7.

Patentansprüche

1. Befestigungsstruktur für einen undichten Kabelverbinder, umfassend:

eine erste Schale (1) und eine zweite Schale (2), die ineinander verschachtelt sind, wobei die erste Schale (1) innen angeordnet ist, die zweite Schale (2) außen angeordnet ist, und in der ersten Schale (1) und der zweiten Schale (2) jeweils ein Befestigungsraum vorgesehen ist, durch den ein undichtes Kabel (3) geführt werden kann; und

eine Kabelklemme (4), die an einer Verbindung zwischen der ersten Schale (1) und der zweiten Schale (2) angeordnet ist, wobei zwischen der Kabelklemme (4) und der ersten Schale (1) ein Spalt (7) vorgesehen ist, der das Einführen eines Außenleiters des undichten Kabels (3) ermöglicht, und wenn das undichte Kabel (3) in die Befestigungsräume eingeführt wird, wird die Kabelklemme (4) mit einer Kraft beaufschlagt, um sich in Richtung der ersten Schale (1) zu bewegen, damit der Außenleiter des undichten Kabels (3) befestigt wird,

dadurch gekennzeichnet, dass die erste Schale (1) über einen Montageraum (5) verfügt, der das Einführen der Kabelklemme (4) unter Einwirkung einer äußeren Kraft ermöglicht, und dass dementsprechend die Kabelklemme (4) über einen Vorsprung (6) verfügt, der sich an den Montageraum (5) anpasst,

und dadurch, dass das andere, dem Vorsprung (6) gegenüberliegende Ende der Kabelklemme (4) mit einem ersten Begrenzungselement (8) versehen ist, die erste Schale (1) mit einem zweiten Begrenzungselement (9) versehen ist, das zum ersten Begrenzungselement (8) passt, und das erste Begrenzungselement (8) unter Einwirkung einer äußeren Kraft über das zweite Begrenzungselement (9) hinaus ragt, um den Vorsprung (6) in den Montageraum (5) zur Befestigung einzuführen.

2. Befestigungsstruktur für einen undichten Kabelverbinder nach Anspruch 1, wobei eine dem Spalt (7) zugewandte Stirnfläche von mindestens einer der Kabelklemme (4) oder der ersten Schale (1) eine verjüngte Fläche ist.

3. Befestigungsstruktur für einen undichten Kabelverbinder nach Anspruch 2, wobei eine dem Spalt (7) zugewandte Stirnfläche der Kabelklemme (4) eine sich verjüngte Fläche mit einem Innendurchmesser ist, der von einem Ende nahe der zweiten Schale (2) zum anderen Ende nahe der ersten Schale (1) allmählich zunimmt, und eine dem Spalt (7) zugewandte Stirnfläche der ersten Schale (1) durch mindes-

tens zwei Teilschrägflächen gebildet wird.

4. Befestigungsstruktur für einen undichten Kabelverbinder nach einem der Ansprüche 1 bis 3, wobei ein drittes Begrenzungselement und ein viertes Begrenzungselement in einem Abstand in axialer Richtung in der zweiten Schale (2) angeordnet sind, ein erstes Dichtungselement (14), ein Gehäuse (15) und ein Druckring (16) der Reihe nach zwischen dem dritten Begrenzungselement und dem vierten Begrenzungselement angeordnet sind, der Druckring (16) am vierten Begrenzungselement anliegt, das erste Dichtungselement (14) am dritten Begrenzungselement anliegt und das Gehäuse (15) sowohl am ersten Dichtungselement (14) als auch am Druckring (16) anliegt.

5. Befestigungsstruktur für einen undichten Kabelverbinder nach Anspruch 4, wobei das Gehäuse (15) mit einer verjüngten Oberfläche versehen ist, die zur Kabelklemme (4) passt, um unter Einwirkung einer äußeren Kraft eine radiale Anpresskraft auf die Kabelklemme (4) auszuüben.

6. Befestigungsstruktur für einen undichten Kabelverbinder nach einem der Ansprüche 1 bis 5, wobei eine Ringnut (17) in einer Kontaktfläche zwischen der ersten Schale (1) und der zweiten Schale (2) vorgesehen ist, und ein zweites Dichtungselement (18) innerhalb der Ringnut (17) angeordnet ist.

7. Befestigungsstruktur für einen undichten Kabelverbinder nach einem der Ansprüche 1 bis 6, wobei die erste Schale (1) und die zweite Schale (2) durch Presspassung zusammengesetzt sind.

8. Undichter Kabelverbinder, umfassend die Befestigungsstruktur für einen undichten Kabelverbinder nach einem der Ansprüche 1 bis 7.

Revendications

1. Structure de montage pour un connecteur de câble à fuite, comprenant :

une première coque (1) et une seconde coque (2) qui sont emmanchées l'une dans l'autre, dans laquelle la première coque (1) est disposée à l'intérieur, la seconde coque (2) est disposée à l'extérieur, et un espace de montage permettant le passage d'un câble à fuite (3) est prévu dans chacune de la première coque (1) et de la seconde coque (2) ; et

un serre-câble (4), disposé au niveau d'une connexion entre la première coque (1) et la seconde coque (2), dans laquelle un espace (7) permettant l'insertion d'un conducteur ex-

- terne du câble à fuite (3) est prévu entre le serre-câble (4) et la première coque (1), et lorsque le câble à fuite (3) est inséré dans les espaces de montage, le serre-câble (4) est soumis à une force pour se déplacer vers la première coque (1) pour fixer le conducteur externe du câble à fuite (3),
- caractérisée en ce que** la première coque (1) est formée avec un espace d'assemblage (5) permettant l'insertion du serre-câble (4) sous l'action d'une force externe, et en conséquence, le serre-câble (4) est formé avec une saillie (6) s'adaptant à l'espace d'assemblage (5), et **en ce que** l'autre extrémité du serre-câble (4) opposée à la saillie (6) est pourvue d'un premier élément de limitation (8), la première coque (1) est pourvue d'un deuxième élément de limitation (9) correspondant au premier élément de limitation (8), et le premier élément de limitation (8) grimpe sur le deuxième élément de limitation (9) sous l'action d'une force externe pour insérer la saillie (6) dans l'espace d'assemblage (5) pour la fixation.
2. Structure de montage pour un connecteur de câble à fuite selon la revendication 1, dans laquelle une surface d'extrémité d'au moins l'un du serre-câble (4) ou de la première coque (1) faisant face à l'espace (7) est une surface conique. 25
 3. Structure de montage pour un connecteur de câble à fuite selon la revendication 2, dans laquelle une surface d'extrémité du serre-câble (4) faisant face à l'espace (7) est une surface conique avec un diamètre interne augmentant progressivement d'une extrémité proche de la seconde coque (2) à l'autre extrémité proche de la première coque (1), et une surface d'extrémité de la première coque (1) faisant face à l'espace (7) est formée par au moins deux surfaces inclinées partielles. 30 35 40
 4. Structure de montage pour un connecteur de câble à fuite selon l'une quelconque des revendications 1 à 3, dans laquelle un troisième élément de limitation et un quatrième élément de limitation sont disposés à un intervalle dans une direction axiale dans la seconde coque (2), un premier élément d'étanchéité (14), un boîtier (15) et une bague de pression (16) sont disposés séquentiellement entre le troisième élément de limitation et le quatrième élément de limitation, la bague de pression (16) vient en butée contre le quatrième élément de limitation, le premier élément d'étanchéité (14) vient en butée contre le troisième élément de limitation, et le boîtier (15) vient en butée à la fois contre le premier élément d'étanchéité (14) et la bague de pression (16). 45 50 55
 5. Structure de montage pour un connecteur de câble à fuite selon la revendication 4, dans laquelle le boîtier (15) est pourvu d'une surface conique correspondant au serre-câble (4) pour appliquer une force de pression radiale au serre-câble (4) sous l'action d'une force externe. 5
 6. Structure de montage pour un connecteur de câble à fuite selon l'une quelconque des revendications 1 à 5, dans laquelle une rainure annulaire (17) est prévue dans une surface de contact entre la première coque (1) et la seconde coque (2), et un second élément d'étanchéité (18) est disposé à l'intérieur de la rainure annulaire (17). 10
 7. Structure de montage pour connecteur de câble à fuite selon l'une quelconque des revendications 1 à 6, dans laquelle la première coque (1) et la seconde coque (2) sont assemblées par ajustement serré. 15
 8. Connecteur de câble à fuite, comprenant la structure de montage pour un connecteur de câble à fuite selon l'une quelconque des revendications 1 à 7. 20

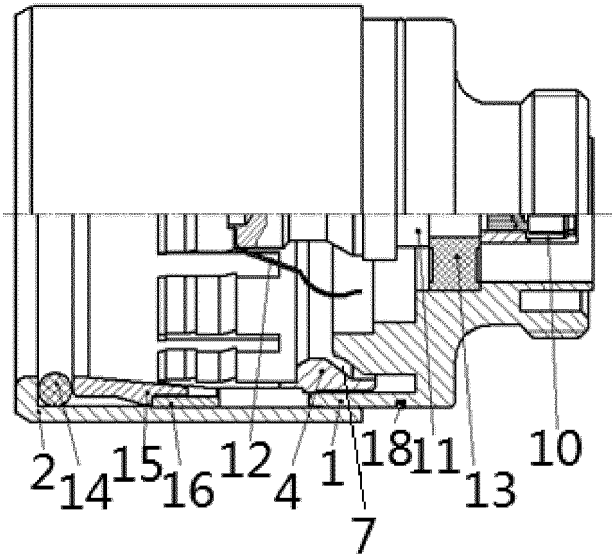


Fig 1

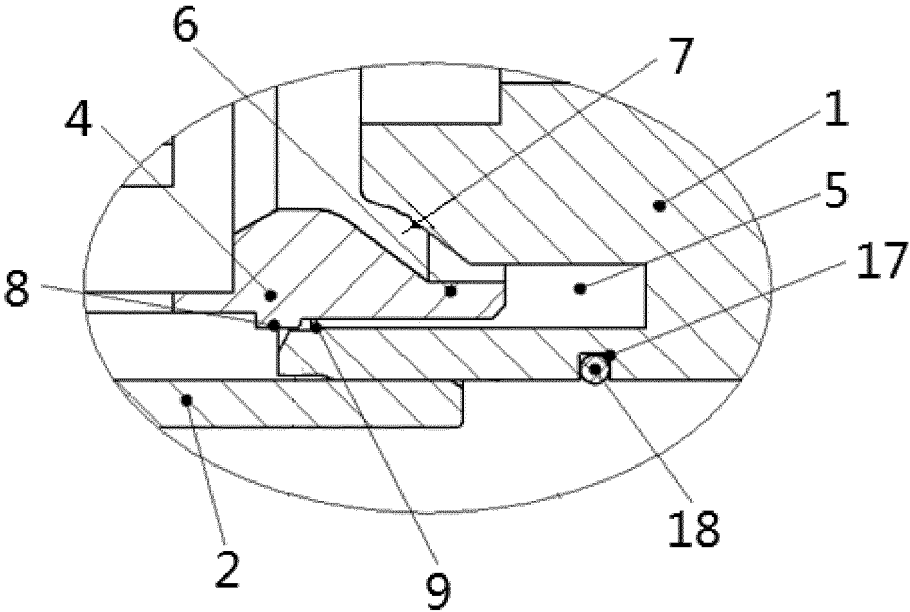


Fig 2

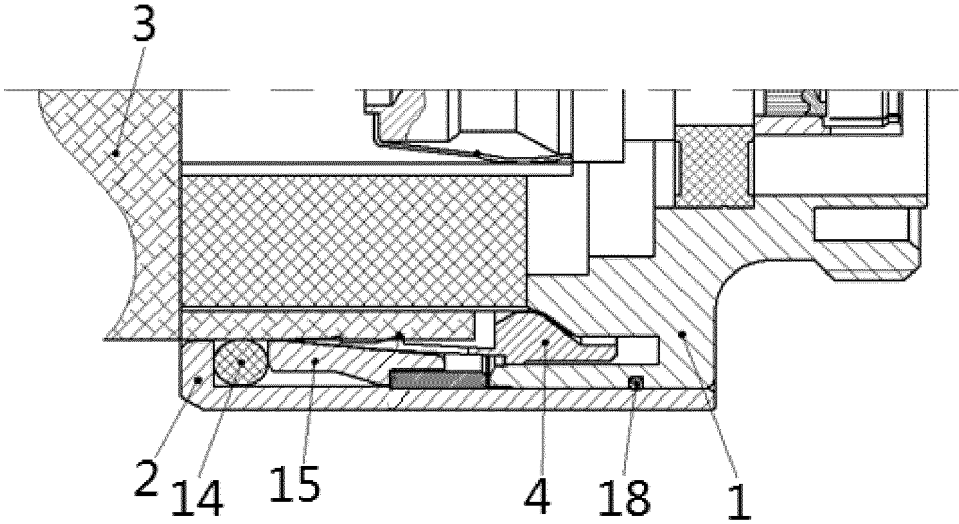


Fig 3

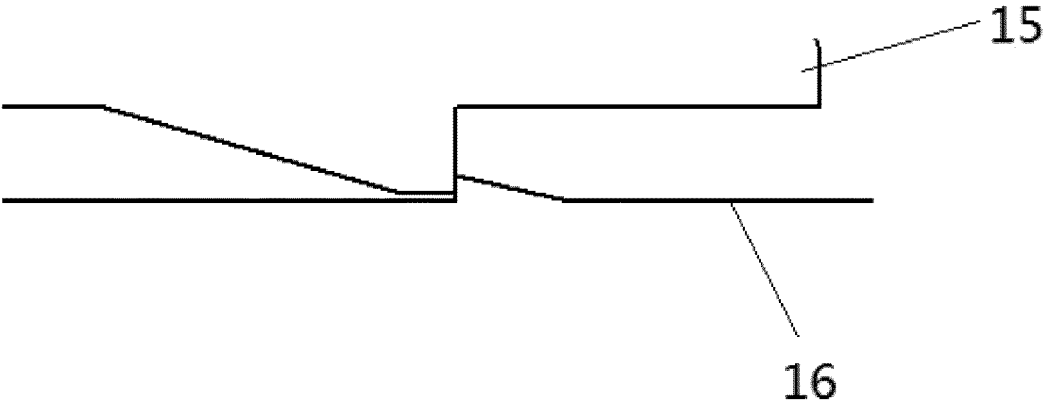


Fig 4

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 20050118865 A1 [0003]
- US 20130323968 A1 [0004]
- US 6884113 B1 [0005]