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(54) MANUALLY TIGHTENED ADAPTER FOR PLUGS FOR CIVIL AND INDUSTRIAL USE

MANUELL ANGEZOGENER ADAPTER FÜR STECKER ZUR ZIVILEN UND INDUSTRIELLEN VERWENDUNG

ADAPTATEUR À SERRAGE MANUEL DE FICHES À USAGE CIVIL ET INDUSTRIEL

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Description

[0001] The present patent concerns electrical devices and more specifically it concerns an adapter for electric plugs for civil use and industrial sockets.

[0002] Electrical plugs for use in civil buildings are known, both of the Schuko type and of the Italian type with three aligned pins, which are commonly used to connect to the power mains household appliances such as vacuum cleaners, air conditioners, refrigerators, and so on, as well as tools such as drills, electric saws or any other electric tool needed for different applications in civil buildings where corresponding sockets are provided. Industrial plugs and sockets are also known, which are safer, so that they can be used both indoors and outdoors, as they can be exposed to weather agents.

[0003] These industrial plugs and sockets usually comply with the European standard EN 60309-1.

[0004] If said electric tools or appliances need to be used both in domestic and in industrial environments, it is necessary to modify the plug, so that it is suitable for use both with sockets for civil buildings and with industrial single-phase sockets.

[0005] It is also known that it is not possible to modify the plug of an electrical device or of an electrical piece of equipment in general, for example a household appliance or a tool such as a drill, since the removal of the plug voids the manufacturer's guarantee.

[0006] For this reason, professional operators, who use their equipment both in civil and in industrial environments, are forced to use two different devices or to resort to special adapters which are not always used correctly.

[0007] The known adapters are made up of a main body, provided with a front portion comprising the pins that are typical of standardized industrial plugs and with a socket for the insertion of a plug of the type for civil applications in the rear portion.

[0008] Furthermore, said adapters are covered by shells intended to protect the contacts according to the currently applied standards for industrial plugs and sockets.

[0009] The patent EP 2852010 A1 concerns an adapter device for electrical plugs for industrial applications, according to the preamble of claim 1, comprising a plug body provided with connectors for an electrical plug, a protective shell coupled with the plug body, wherein the shape and size of said protective shell are such as to completely cover both the connectors and said electrical plug when the latter is fitted in the connectors.

[0010] More specifically, the shell is constituted by two half-shells suited to be constrained to each other in order to define the protective shell, which is provided with an opening for the passage of the power cable with the electrical plug at the level of the rear end opposite the one intended to be coupled with the plug body. Said half shells are furthermore provided with through holes for the insertion of tightening screws. Said holes for the insertion

of tightening screws are distributed on said half shells both on the end intended to be coupled with the plug body and on the opposite end provided with an opening for the passage of the power cable.

[0011] The assembly of said half shell thus requires the use of specific tools and tightening screws, which must be used in order to ensure the tightness of the shell.

[0012] The patent EP 1538712 A2 concerns an electrical connector comprising a casing with an internal plug and a protective shell made up of two half shells suited to be joined to each other in order to enclose said casing.

[0013] The document explains that a nut is used in order to fix the half shells to each other, said nut consisting of an internally threaded circular body suited to be screwed on the threaded ends of said half shells. Therefore, in order to obtain the connection, it is necessary to previously fit the nut on the cable, and the nut cannot be removed any more without disassembling the plug.

[0014] The opposite ends of said half shells, instead, are constrained to the body of the casing, for example by means of an adhesive material or by simply juxtaposing them. The use of an adhesive material does not allow the half shells to be joined and separated when necessary, while their simple juxtaposition does not ensure tightness.

[0015] The patent DE 9309840 U1 concerns a cable clamp offering the advantage that, after being installed for the first time, it can be replaced in case of damage. The cable clamp is constituted by a collar made up of two semi-circular halves inside which there is an elastic bushing, also made up of two halves, wherein the two opposite ends of said collar are externally threaded, and wherein a nut is screwed on one of said ends, said nut being in turn made up of two substantially semi-circular halves, internally threaded and externally shaped with a polygonal outline suited to be coupled with matching screwing tools.

[0016] This type of cable clamps always requires the use of an interposed elastic element forming a sealing ring.

[0017] It is the object of the present invention to provide an adapter that complies with the European standard and can offer the required degree of safety.

[0018] It is another object of the present invention to provide an adapter that can be easily applied and removed without using tools, such as pliers or screwdrivers, etc., in order to favour the double use of the plug for civil applications.

[0019] It is another object of the present invention to guarantee the perfect adhesion of the plug to the inner socket, in order to ensure that the adapter can be extracted from the industrial socket without disconnecting the plug from the socket.

[0020] It is another object of the present invention to provide an adapter in which both the annular part and the edges of each half shell are tight as required by the regulations in force.

[0021] For this reason, a new adapter has been de-

signed, which among its main parts includes a centre body and at least two or more half shells that are suited to be connected to one another in order to obtain a tight chamber, and wherein said shells, once the plug for civil applications has been inserted in them, are locked at the rear by screwing a threaded ring nut in the shape of a cap or a dome thereon, and wherein said threaded ring nut guarantees that the plug cable is locked and that said half shells are tight.

[0022] In further detail, said half shells, which once joined form said closed chamber enclosing the plug, have a first end suited to be constrained to the centre body and a second opposite end, from which the cable exits and which is externally threaded in order to ensure that said threaded ring nut, in turn consisting of at least two complementary parts suited to be connected to form the ring nut itself, can be screwed thereon.

[0023] Said first end of the half shells is configured in such a way that it can be hinged to said centre body or at least partially inserted in said centre body or is both hinged to and at least partially inserted in said centre body.

[0024] An important aspect of the new adapter lies in that the connection of said half shells to the centre body is of the reversible type, does not require the use of screws or adhesive materials and furthermore, thanks to the special configuration of said first end of the half shells, guarantees tightness.

[0025] Said second end, instead, is especially configured with an external thread for screwing said ring nut that can be directly mounted around the cable, thus with no need to remove the plug. Furthermore, said second end is configured with inner hooks that act directly on the cable and that, due to the tightening of the ring nut, clamp the cable and prevent it from coming off.

[0026] The characteristics of the new adapter are highlighted in greater detail in the following description, with reference to the attached drawings that are enclosed hereto by way of non-limiting example.

Figure 1 shows an exploded view of the new adapter when open, with its parts separated, so that it is easier to understand how it is configured and how it works.

Figure 2 shows an exploded view of the new adapter when open and with its parts hooked to each other.

Figure 3 shows an exploded view of the threaded fixing cap or dome-shaped element.

Figure 4 shows a side view of the new adapter when closed.

Figure 5 shows a side view of the sealing rubber element placed inside the terminal thread.

[0027] The new adapter comprises a main body A, in turn comprising a circular wall A1 designed to protect the pins suited to be inserted in plugs of the industrial type, a stop ring A2, a cylindrical centre body A3 containing the plug A5, which can be of the Schuko type or of the

Italian type with aligned holes or of the universal type or of any other standard type for civil applications.

[0028] Said centre body A3 comprises two projections A4, preferably arranged in a diametrically opposite position, each equipped with a pin for the insertion of hooks BC1, BC2 that are integral with the corresponding half shells B1, B2. Said half shells B1, B2, which are preferably conical in shape, are suited to create the chamber that contains the plug S of the electric tool or household appliance. The edges B11, B12, B21, B22 of said shells B1, B2 are complementary to each other, meaning that they are of the male/female coupling type, with a centre wall positioned between two corresponding side walls.

[0029] Even the semi-circular edges B13, B23 of the two half shells B1, B2 are inserted in the sides present on the edge A6 of the centre body A3.

[0030] Each of said half shells B1, B2 comprises, on the side opposite the edge intended to be joined to the centre body A3, an externally threaded semi-circular wall BF1, BF2, in such a way that it can be coupled with the other half shell and form a threaded cylinder. In proximity to said threaded cylinder, formed by said two threaded half cylinders BF1, BF2 coupled together, inner coupling devices BU1, BU2 are provided to lock the power cable of the plug S.

[0031] In this case, according to the invention, said coupling devices BU1, BU2 with hook-shaped terminal part are arranged on the head of the parts BF1, BF2.

[0032] The device comprises also a tightening element C, made up of two semi-circular parts C1, C2, each provided with a toothed projection C13, C23 suited to be inserted in apposite seats C14, C24 in the corresponding adjacent part C2, C1, thus creating an internally threaded ring nut in the shape of a cap or a dome suited to be screwed on the thread BF1, BF2 created by said semi-cylindrical elements and wherein, during the screwing step, as the inner conical wall C15, C25 advances, pressure is exerted towards the inside of said hook-shaped elements BU1, BU2, which rest against the power cable.

[0033] According to the description provided above, it is possible to apply the electrical plug S, of the type for civil applications, directly in the holes A5 of the body A3; successively, after inserting the hooks BC1, BC2 of the half shells B1, B2 in the couplings A4 provided on one side and on the opposite side of the body A3, each of said half shells B1, B2 is rotated until coupling the edges B11, B12, B21, B22 together and closing the two half shells B1, B2 completely.

[0034] According to the invention, the protective compartment for the plug is closed by coupling two half shells B1, B2 that form the terminal threaded cylinder BF1, BF2 on which the cap or dome-shaped element C is screwed, which in turn is made up of two semi-circular parts C1, C2, hinged or suited to be hinged to each other at one end or in any case connected or suited to be connected to each other in a preferably reversible manner and which, once coupled together, constitute a single tightening element, like a ring nut, which will be screwed on

the threaded ends BF1, BF2 of the two half shells, thus closing the adapter around the plug S and locking it.

[0035] Said cap or dome-shaped element C comprises two preferably identical semi-circular parts, each provided with an inner thread CF and an outer knurl CZ. Said cap or dome-shaped tightening element can be opened and divided in two, being formed by two semi-circular parts C1, C2 suited to be coupled to each other; in this way it is possible to release the cap or dome-shaped element from the cable of the plug S.

[0036] According to the invention, furthermore, there is a rubber element G serving as a seal between the half shells and the cable, wherein said rubber element G is positioned on the inside BF12 of the end of the two half shells B1, B2 at the level of the terminal thread BF1, BF2.

[0037] According to the invention, said two or more parts C1, C2 of the cap or dome-shaped tightening element C are made integral to each other through the use of an external binding element, such as a toothed clamp, an elastic clamp or other equivalent means. Figure 6, for example, shows that said tightening element C can comprise a flexible connection element, or arch, AR between said parts C1, C2 that are internally threaded CF1, CF2.

[0038] To withdraw the plug, it is sufficient to unscrew the ring nut or the cap or dome-shaped tightening element, causing the two half shells to be opened and thus releasing the power cable, which makes it possible to disconnect the plug and the cable from the body of the adapter.

[0039] The advantages offered by this solution can be easily understood: first of all, it is possible to connect and remove the plug to/from the adapter with no need to use tools such as screwdrivers or pliers; secondly, it is sufficient to turn the dome-shaped element manually as if it were a normal cap until it comes off and to disassemble it and then open the two half shells.

[0040] The new adapter for electrical sockets can be conveniently used by professional operators who often need to connect their equipment to industrial plugs or domestic sockets, according to the place where they are working, which can vary even in the same day. Another important characteristic lies in that all the elements can be easily produced at limited costs, since they are moulded plastic elements without internal partitions affecting the plug.

[0041] These are the schematic outlines that are sufficient for the expert in the art to carry out the invention; therefore, on practical application, variant embodiments may be produced within the scope of the claims.

[0042] Therefore, with reference to the above description and the attached drawings, the following claims are expressed.

Claims

1. Adapter for industrial electrical sockets, comprising a main body (A) provided with pins designed to be

inserted in an industrial socket, a substantially cylindrical body (A1) intended to protect said pins and a centre body (A3) comprising a socket (A5) provided with holes according to the civil construction standards, *and wherein* said pins are electrically connected to said socket, wherein the adapter comprises:

- at least two half shells (B1, B2) suited to contain a plug (S) of the type suited to be used in civil buildings, *and wherein* each of said half shells (B1, B2) comprises a first end configured to be reversibly joined to said centre body (A3) and a second opposite threaded end (BF1, BF2) suited to interact with a tightening element (C);

characterized in that it comprises:

- at least one tightening element (C) comprising at least two parts (C1, C2) that are internally threaded (CF1, CF2) and connected or suited to be connected to each other in such a way as to form said substantially circular tightening element (C) in the shape of a dome or a cap with conical taper (C15), *and wherein* screwing said tightening element (C) on said externally threaded end (BF1, BF2) of said half shells (B1, B2) closes the two half shells (B1, B2) and locks the electric cable of the plug (S) on said half shells (B1, B2), *and wherein* said first end of said half shells (B1, B2) is configured to be hinged to said centre body (A3) or to be at least partially inserted in said centre body (C3) or to be both hinged to and at least partially inserted in said centre body (A3).

2. Adapter for industrial electrical sockets according to claim 1, **characterized in that** the semi-circular edges (B13, B23) of the two half shells (B1, B2) become engaged with an edge (A6) of the centre body (A3) for the purpose of obtaining a tight coupling.
3. Adapter for industrial electrical sockets according to claim 2, **characterized in that** said half shells (B1, B2) are hinged to the edge (A6) of said centre body (A3) by means of one or more coupling devices (BC1, BC2) positioned in proximity to the edges (B13, B23) and suited to become engaged with corresponding holding devices (A4) positioned in proximity to the edge (A6) of said body (A3).
4. Adapter for industrial electrical sockets according to claim 3, **characterized in that** said coupling devices (BC1, BC2) can be selectively released from said holding devices (A4).

5. Adapter for industrial electrical sockets according to claim 1, **characterized in that** said tightening element (C), comprising said parts (C1, C2) internally threaded (CF1, CF2), comprises mutual and reversible coupling devices (C13, C14, C23, C24) suited to form said substantially circular tightening element (C) in the shape of a dome or a cap with conical taper (C15, C25). 5
6. Adapter for industrial electrical sockets according to claims 1 or 5, **characterized in that** said tightening element (C) comprises a flexible connection element, or arch, between said parts (C1, C2) that are internally threaded (CF1, CF2). 10
7. Adapter for industrial electrical sockets according to claim 1, **characterized in that** said tightening element (C) comprises said at least two parts (C1, C2) that are internally threaded (CF1, CF2) and are reversibly constrained to each other by means of a further binding element. 15 20
8. Adapter for industrial electrical sockets according to claims 5 or 6, **characterized in that** said second end (BF1, BF2) of said half shells (B1, B2) comprises coupling elements or hooks (BU1, BU2) or projections which are integral with said half shells (B1, B2) and whose ends rest on said conical taper (C15, C25) of said tightening element (C), in such a way that when it is screwed said hooks (BU1, BU2) lock said cable in said adapter. 25 30
9. Adapter for industrial electrical sockets according to the preceding claims, **characterized in that** edges (B11, B12, B21, B22) of said half shells (B1, B2) are complementary to each other, meaning that they are of the male/female coupling type with a centre wall that is positioned between two corresponding side walls of the edge of the opposite half shell, in order to obtain the tight coupling of the two half shells (B1, B2). 35 40
10. Adapter for industrial electrical sockets according to the preceding claims, **characterized in that** the external surface of the cap or dome (C) is partially or completely knurled (CZ) for the purpose of improving the grip of the hand on the cap (C) itself. 45
11. Adapter for industrial electrical sockets according to the preceding claims, **characterized in that** it comprises a rubber element (G) which is substantially cylindrical in shape and is positioned inside a compartment (BF11, BF12) at the level of the terminal thread so as to obtain a tight closure on the electric cable. 50 55

Patentansprüche

1. Adapter für Industriesteckdosen, umfassend einen Hauptkörper (A), der mit Stiften versehen ist, die dazu bestimmt sind, in eine Industriesteckdose eingeführt zu werden, einen im Wesentlichen zylindrischen Körper (A1), der dazu bestimmt ist, die besagten Stifte zu schützen, und einen Mittelkörper (A3), der eine Buchse (A5) umfasst, die mit Löchern gemäß den Normen für den Zivilbau versehen ist, und wobei die besagten Stifte elektrisch mit der besagten Buchse verbunden sind, wobei der Adapter folgende Elemente umfasst:

- mindestens zwei Halbschalen (B1, B2), die zur Aufnahme eines Steckers (S) des Typs geeignet sind, der zur Verwendung in Zivilbauten geeignet ist, und wobei jede der besagten Halbschalen (B1, B2) ein erstes Ende aufweist, das so konfiguriert ist, dass es umkehrbar mit dem besagten Mittelkörper (A3) verbunden werden kann, und ein zweites, gegenüberliegendes Gewindeende (BF1, BF2) aufweist, das zum Zusammenwirken mit einem Spannelement (C) geeignet ist;

dadurch gekennzeichnet, dass er folgende Elemente umfasst:

- mindestens ein Spannelement (C), das mindestens zwei Teile (C1, C2) mit Innengewinde (CF1, CF2) umfasst, die so miteinander verbunden sind oder miteinander verbunden werden können, dass sie das besagte im Wesentlichen kreisförmige Spannelement (C) in Form einer Kuppel oder einer Kappe mit konischer Verjüngung (C15) bilden, und wobei das Verschrauben des besagten Spannelements (C) auf dem besagten Außengewindeende (BF1, BF2) der besagten Halbschalen (B1, B2) die beiden Halbschalen (B1, B2) schließt und das elektrische Kabel des Steckers (S) auf den besagten Halbschalen (B1, B2) verriegelt, und wobei das besagte erste Ende der besagten Halbschalen (B1, B2) so konfiguriert ist, dass es an dem besagten Mittelkörper (A3) angelenkt ist oder zumindest teilweise in den besagten Mittelkörper (A3) eingesetzt ist oder sowohl an dem besagten Mittelkörper (A3) angelenkt als auch zumindest teilweise in diesen eingesetzt ist.

2. Adapter für elektrische Industriesteckdosen nach Patentanspruch 1, **dadurch gekennzeichnet, dass** die halbkreisförmigen Kanten (B13, B23) der beiden Halbschalen (B1, B2) mit einer Kante (A6) des Mittelkörpers (A3) in Eingriff kommen, um eine hermetische Kupplung zu erhalten.

3. Adapter für elektrische Industriesteckdosen nach Patentanspruch 2, **dadurch gekennzeichnet, dass** die besagten Halbschalen (B1, B2) an der Kante (A6) des besagten Mittelkörpers (A3) mittels einer oder mehrerer Kupplungsvorrichtungen (BC1, BC2) angelenkt sind, die in der Nähe der Kanten (B13, B23) positioniert und geeignet sind, mit entsprechenden Haltevorrichtungen (A4) in Eingriff zu kommen, die in der Nähe der Kante (A6) des besagten Körpers (A3) positioniert sind. 5
4. Adapter für elektrische Industriesteckdosen nach Patentanspruch 3, **dadurch gekennzeichnet, dass** die besagten Kupplungsvorrichtungen (BC1, BC2) wahlweise von den besagten Haltevorrichtungen (A4) gelöst werden können. 10
5. Adapter für elektrische Industriesteckdosen nach Patentanspruch 1, **dadurch gekennzeichnet, dass** das besagte Spannelement (C), das die besagten Teile (C1, C2) mit Innengewinde (CF1, CF2) umfasst, wechselseitige und umkehrbare Kupplungsvorrichtungen (C13, C14, C23, C24) umfasst, die geeignet sind, das besagte im Wesentlichen kreisförmige Spannelement (C) in Form einer Kuppel oder einer Kappe mit konischer Verjüngung (C15, C25) zu bilden. 15
6. Adapter für elektrische Industriesteckdosen nach Patentanspruch 1 oder 5, **dadurch gekennzeichnet, dass** das besagte Spannelement (C) ein biegsames Verbindungselement oder einen Bogen zwischen den besagten Teilen (C1, C2) mit Innengewinde (CF1, CF2) umfasst. 20
7. Adapter für elektrische Industriesteckdosen nach Patentanspruch 1, **dadurch gekennzeichnet, dass** das besagte Spannelement (C) die besagten mindestens zwei Teile (C1, C2) umfasst, die mit einem Innengewinde (CF1, CF2) versehen sind und mittels eines weiteren Verbindungselements umkehrbar aneinander gebunden sind. 25
8. Adapter für elektrische Industriesteckdosen nach Patentanspruch 5 oder 6, **dadurch gekennzeichnet, dass** das besagte zweite Ende (BF1, BF2) der besagten Halbschalen (B1, B2) Kupplungselemente oder Haken (BU1, BU2) oder Vorsprünge umfasst, die mit den besagten Halbschalen (B1, B2) einstückig sind und deren Enden auf der besagten konischen Verjüngung (C15, C25) des besagten Spannelements (C) aufliegen, sodass die besagten Haken (BU1, BU2) das besagte Kabel in dem besagten Adapter verriegeln, wenn dieses verschraubt wird. 30
9. Adapter für elektrische Industriesteckdosen nach den vorhergehenden Patentansprüchen, **dadurch gekennzeichnet, dass** Kanten (B11, B12, B21, 35

B22) der besagten Halbschalen (B1, B2) komplementär zueinander sind, d.h., dass sie vom Typ Stecker-/Buchsen-Kupplung sind, mit einer Mittelwand, die zwischen zwei entsprechenden Seitenwänden der Kante der gegenüberliegenden Halbschale positioniert ist, um die hermetische Kupplung der beiden Halbschalen (B1, B2) zu erhalten.

10. Adapter für elektrische Industriesteckdosen nach den vorhergehenden Patentansprüchen, **dadurch gekennzeichnet, dass** die Außenfläche der Kuppel oder der Kappe (C) teilweise oder vollständig gerändelt (CZ) ist, um den Griff der Hand an der Kappe (C) selbst zu verbessern. 40

11. Adapter für elektrische Industriesteckdosen nach den vorhergehenden Patentansprüchen, **dadurch gekennzeichnet, dass** er ein Gummielement (G) mit im Wesentlichen zylindrischer Form umfasst, das im Inneren eines Fachs (BF11, BF12) auf Höhe des Anschlussgewindes angeordnet ist, um einen hermetischen Verschluss auf dem elektrischen Kabel zu erhalten. 45

Revendications

1. Adaptateur pour prises électriques industrielles, comprenant un corps principal (A) doté de chevilles conçues pour être insérées dans une prise industrielle, un corps essentiellement cylindrique (A1) destiné à protéger lesdites chevilles et un corps central (A3) comprenant une prise (A5) pourvue de trous selon les standards civils de construction, et où lesdites chevilles sont électriquement reliées à ladite prise, où l'adaptateur comprend : 50

- au moins deux demi-coques (B1, B2) indiquées pour contenir une fiche (S) du type apte à être utilisée en bâtiments civils, et où chacune desdites demi-coques (B1, B2) comprend une première extrémité configurée pour être reliée de manière réversible audit corps central (A3) et une deuxième extrémité filetée opposée (BF1, BF2) indiquée pour interagir avec un élément de serrage (C) ; 55

caractérisé en ce qu'il comprend :

- au moins un élément de serrage (C) comprenant au moins deux parties (C1, C2) qui sont intérieurement filetées (CF1, CF2) et reliées ou indiquées pour être reliées l'une à l'autre de manière à former ledit élément de serrage essentiellement circulaire (C) en forme d'une coupole ou d'un capuchon de forme conique (C15), et où le vissage dudit élément de serrage (C) sur ladite extrémité extérieurement filetée (BF1, 60

- BF2) desdites demi-coques (B1, B2) ferme des deux demi-coques (B1, B2) et bloque le câble électrique de la fiche (S) sur lesdites deux demi-coques (B1, B2),
et où ladite première extrémité desdites demi-coques (B1, B2) est configurée de manière à être fixée à charnière audit corps central (A3) ou à être insérée au moins partiellement dans ledit corps central (A3) ou à être fixée à charnière audit corps central (A3) et au moins partiellement insérée dans celui-ci.
2. Adaptateur pour prises électriques industrielles selon la revendication 1, **caractérisé en ce que** les bords semi-circulaires (B13, B23) des deux demi-coques (B1, B2) s'engagent avec un bord (A6) du corps central (A3) dans le but d'obtenir un raccordement étanche.
 3. Adaptateur pour prises électriques industrielles selon la revendication 2, **caractérisé en ce que** lesdites demi-coques (B1, B2) sont fixées à charnière au bord (A6) dudit corps central (A3) au moyen d'un ou plusieurs dispositifs de raccordement (BC1, BC2) positionnés à proximité des bords (B13, B23) et indiqués pour s'engager avec des dispositifs de maintien correspondants (A4) positionnés à proximité du bord (A6) dudit corps (A3).
 4. Adaptateur pour prises électriques industrielles selon la revendication 3, **caractérisé en ce que** lesdits dispositifs de raccordement (BC1, BC2) peuvent être relâchés de manière sélective desdits dispositifs de maintien (A4).
 5. Adaptateur pour prises électriques industrielles selon la revendication 1, **caractérisé en ce que** ledit élément de serrage (C), comprenant lesdites parties (C1, C2) intérieurement filetées (CF1, CF2), comprend des dispositifs de raccordement mutuel et réversible (C13, C14, C23, C24) indiqués pour former ledit élément de serrage essentiellement circulaire (C) en forme d'une coupole ou d'un capuchon de forme conique (C15, C25).
 6. Adaptateur pour prises électriques industrielles selon les revendications 1 ou 5, **caractérisé en ce que** ledit élément de serrage (C) comprend un élément de connexion flexible, ou arc, entre lesdites parties (C1, C2) qui sont intérieurement filetées (CF1, CF2).
 7. Adaptateur pour prises électriques industrielles selon la revendication 1, **caractérisé en ce que** ledit élément de serrage (C) comprend lesdites au moins deux parties (C1, C2) qui sont intérieurement filetées (CF1, CF2) et qui sont bloquées de manière réversible l'une à l'autre au moyens d'un ultérieur élément de blocage.
 8. Adaptateur pour prises électriques industrielles selon les revendications 5 ou 6, **caractérisé en ce que** ladite deuxième extrémité (BF1, BF2) desdites demi-coques (B1, B2) comprend des éléments de raccordement ou crochets (BU1, BU2) ou saillies qui sont solidaires desdites demi-coques (B1, B2) et dont les extrémités reposent sur ladite forme conique (C15, C25) dudit élément de serrage (C), de manière à ce que quand il est vissé, lesdits crochets (BU1, BU2) bloquent ledit câble dans ledit adaptateur.
 9. Adaptateur pour prises électriques industrielles selon les revendications précédentes, **caractérisé en ce que** des bords (B11, B12, B21, B22) desdites demi-coques (B1, B2) sont complémentaires l'un à l'autre, ce qui signifie qu'ils sont du type de raccord mâle/femelle avec une paroi centrale qui est positionnée entre deux parois latérales correspondantes du bord de la demi-coque opposée, de manière à obtenir le raccordement étanche des deux demi-coques (B1, B2).
 10. Adaptateur pour prises électriques industrielles selon les revendications précédentes, **caractérisé en ce que** la surface extérieure du capuchon ou coupole (C) est partiellement ou complètement moletée (CZ) dans le but d'améliorer l'adhérence de la main sur le capuchon (C) même.
 11. Adaptateur pour prises électriques industrielles selon les revendications précédentes, **caractérisé en ce qu'il** comprend un élément en caoutchouc (G) qui est essentiellement de forme cylindrique et est positionné à l'intérieur d'un compartiment (BF11, BF12) à hauteur du filetage d'extrémité de manière à obtenir une fermeture hermétique sur le câble électrique.

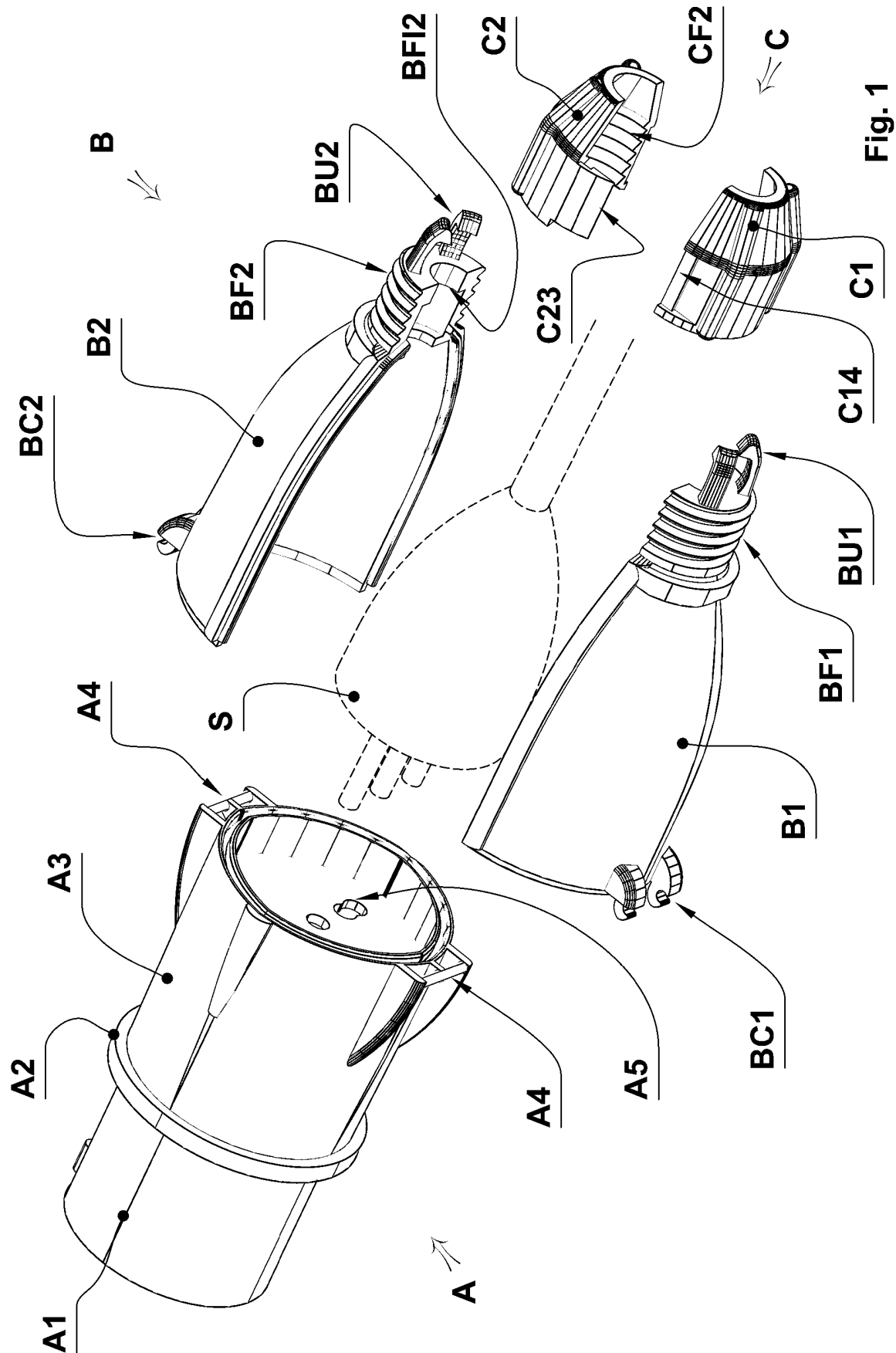


Fig. 1

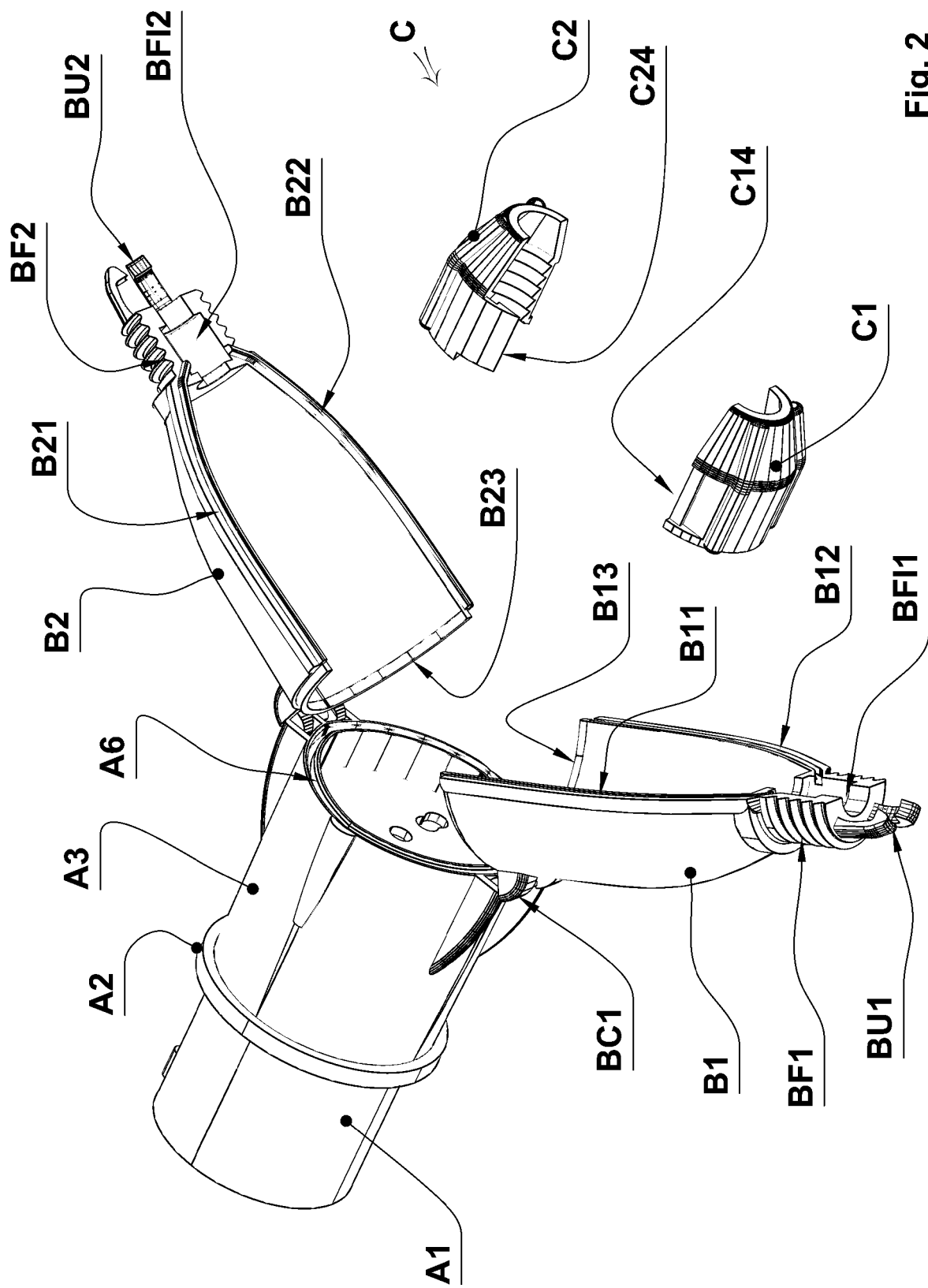


Fig. 2

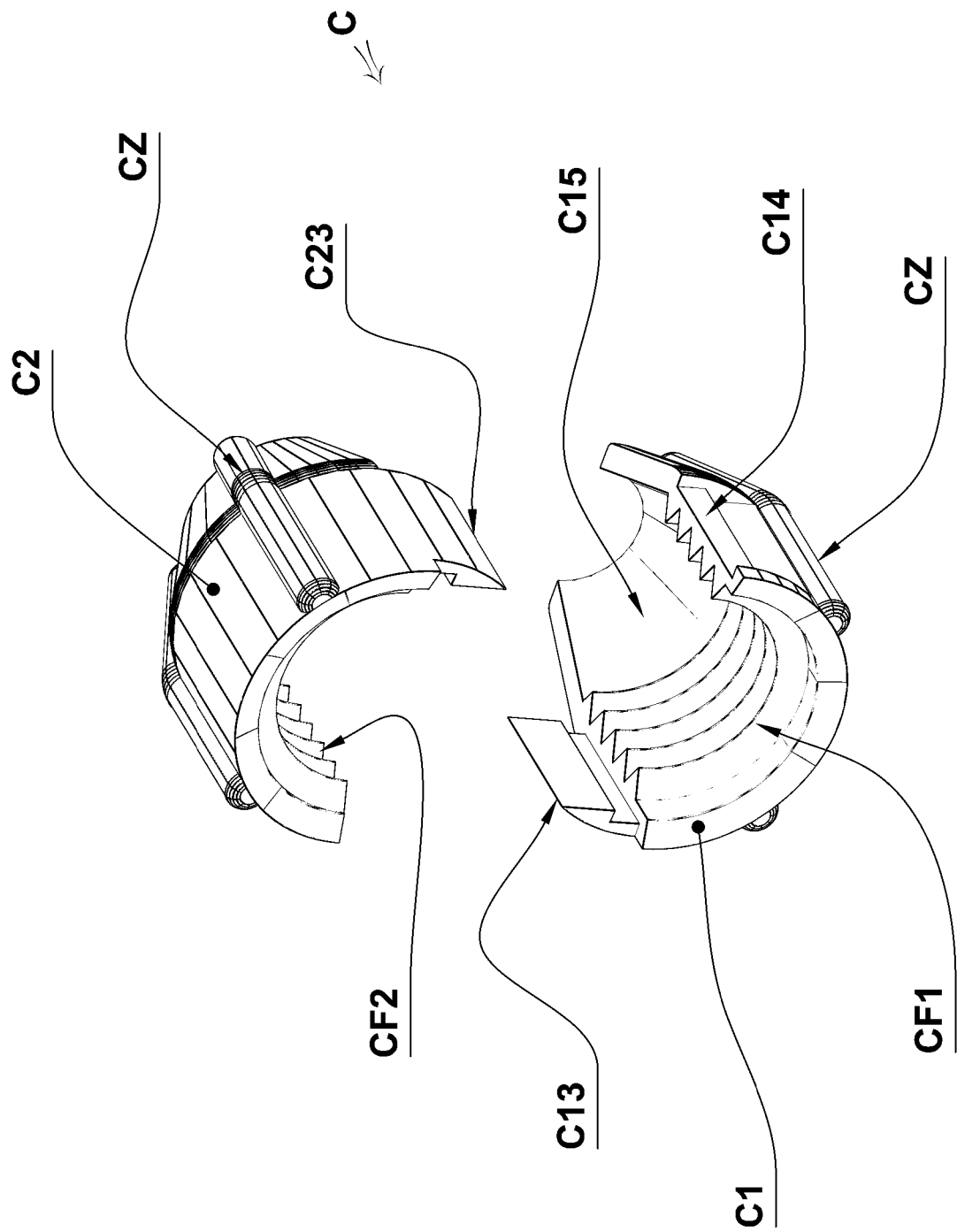


Fig. 3

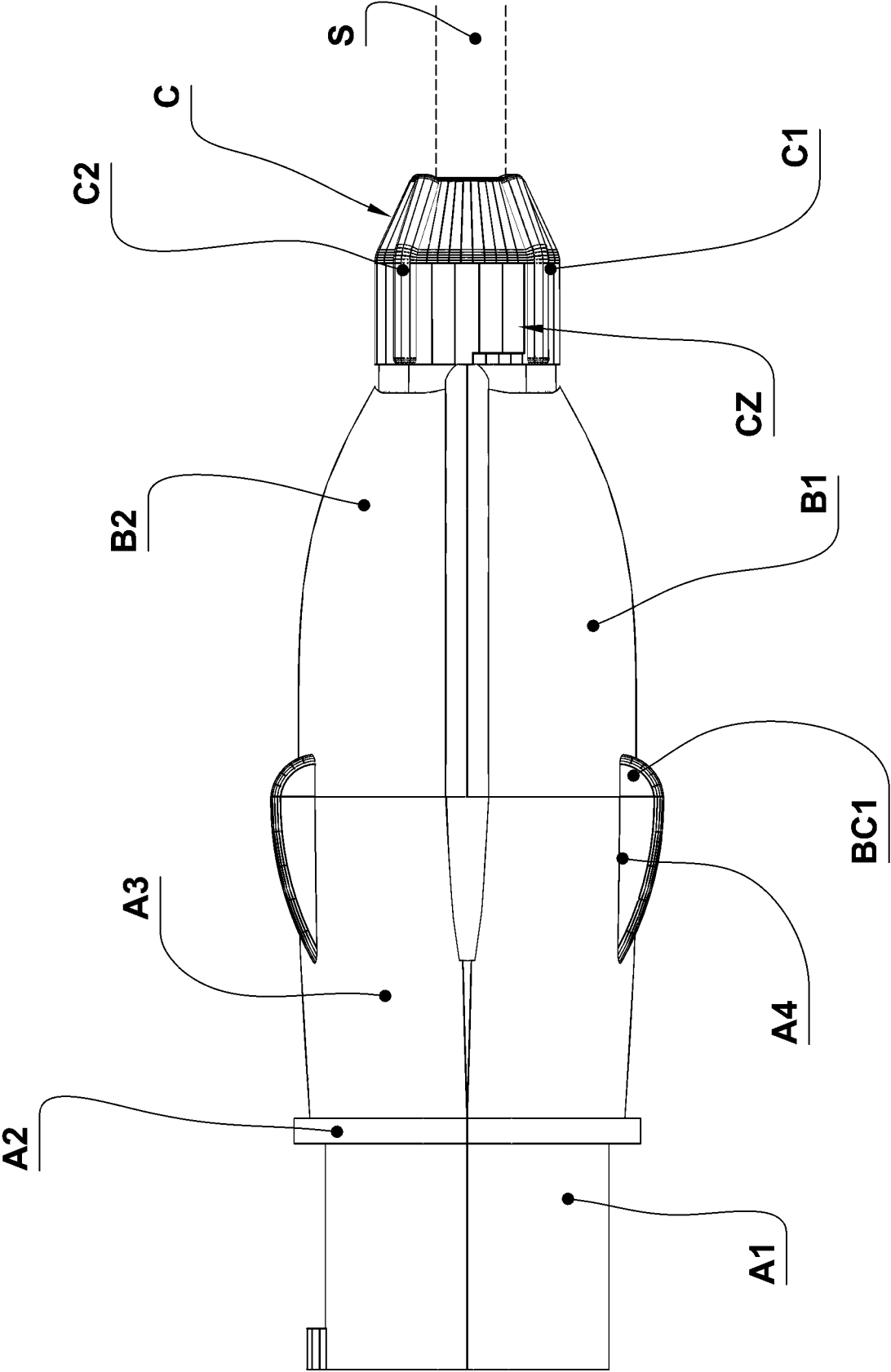


Fig. 4

G

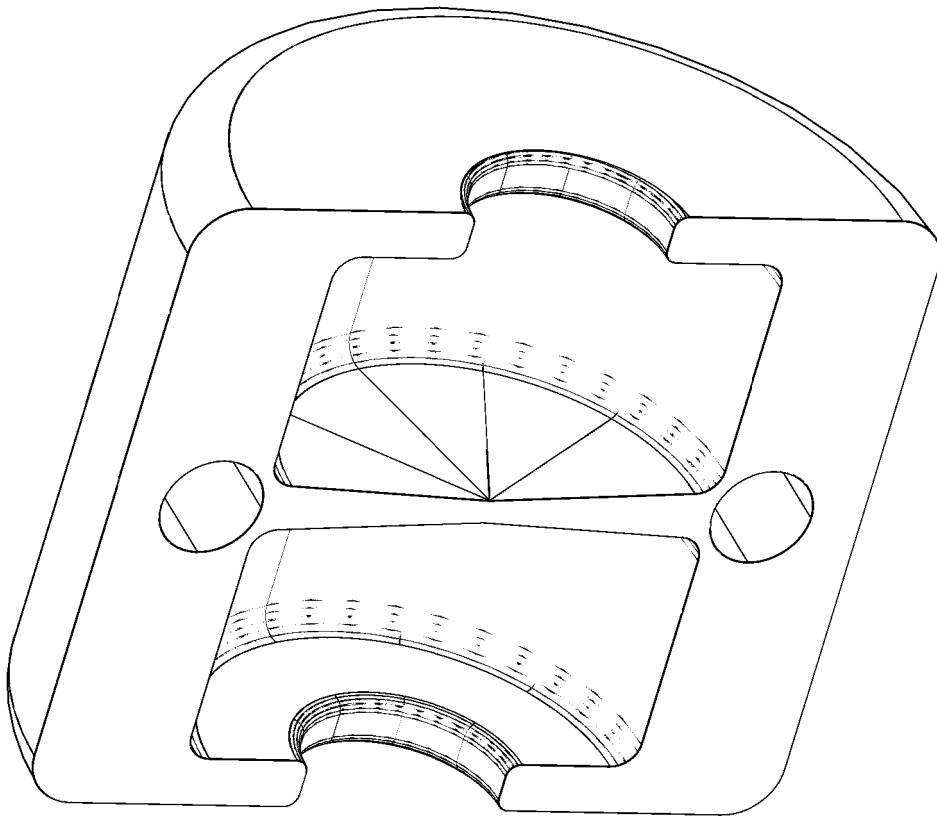


Fig. 5

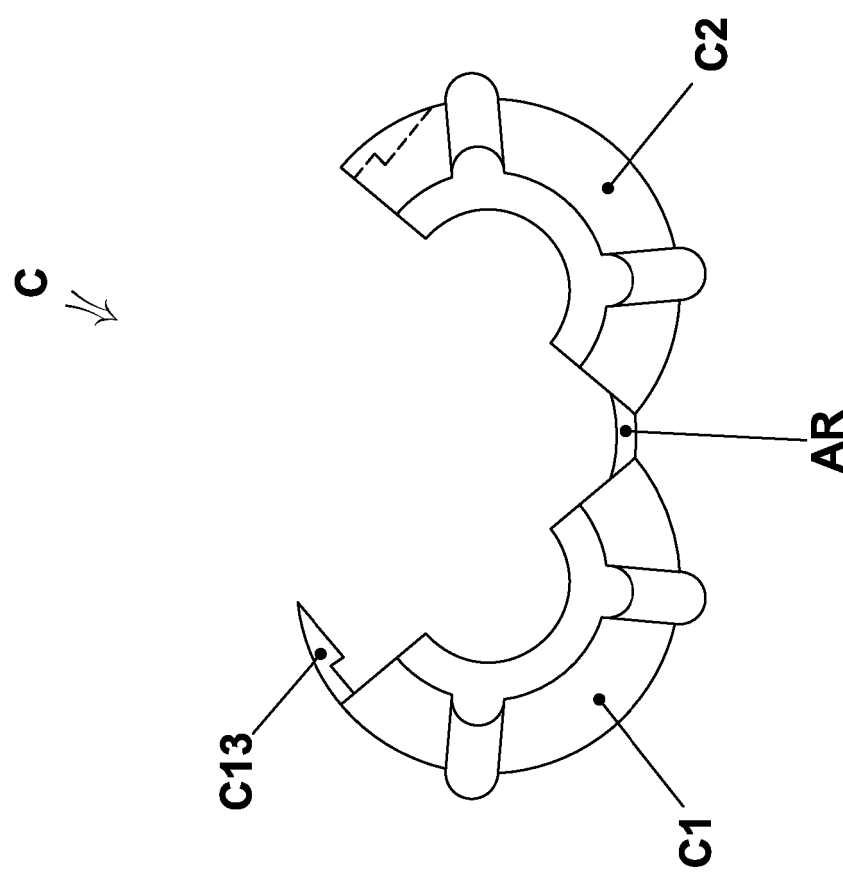


Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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