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(54) **CONNECTION ASSEMBLY COMPRISING A WITHDRAWABLE CONNECTOR AND A FIXING FOOT CONFIGURED TO COOPERATE WITH THE WITHDRAWABLE CONNECTOR**

VERBINDUNGSANORDNUNG MIT EINEM ENTNAHMEFÄHIGEN VERBINDER UND FUSS ZUM ZUSAMMENWIRKEN MIT DEM ENTNAHMEFÄHIGEN VERBINDER

ENSEMBLE DE CONNEXION COMPRENANT UN CONNECTEUR ENFICHABLE ET UN PIED DE FIXATION CONÇU POUR COOPÉRER AVEC LE CONNECTEUR ENFICHABLE

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EP-A1- 3 076 486 US-A- 4 425 018
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Description

Background of the invention

[0001] The invention relates to a connection assembly comprising a withdrawable connector and a fixing foot configured to cooperate with the withdrawable connector.

Description of the prior art

[0002] In the field of connection assembly, it is known to use a system for fastening together two constituent elements of an electrical connection assembly.

[0003] Patent application US 6,626,709 has thus proposed an electrical assembly of the tenon and mortise type, which comprises a male fastener which comprises one tenon having a longitudinal axis and provided with a free end called an engagement end, and a locking rib located at a distance from the tenon, away from the engagement end and oriented transversely to the longitudinal axis, that projects from a fastening face. The electrical assembly also comprises a female fastener complementary to the male fastener. US4425018 describes a connection assembly comprising a withdrawable connector and a fixing foot, wherein the withdrawable connector comprises: an insulating body having a connector cooperation area configured to cooperate, in a mounting position, with a fixing foot configured to be fixed to a support, said insulating body extending in a first extension direction from the connector cooperation area, a conductive bar disposed in the insulating body, a connection socket arranged to cooperate with an external socket, said connection socket being configured to electrically connect the external socket to the conductive bar when the external socket cooperates with the connection socket, and wherein the connection socket is arranged for the external socket to cooperate with said connection socket by a relative movement in an insertion direction transverse to the first extension direction, and the fixing foot comprises: a fixing portion configured to be fixed to a support; and a body having a foot cooperation area configured to cooperate with a withdrawable connector, said body extending in a second extension direction from the fixing portion.

[0004] Such configurations are not conducive to the insertion of an electrical connector in the electrical assembly.

[0005] The present invention aims to solve all or some of the disadvantages mentioned above.

Summary of the invention

[0006] For this purpose, the present invention relates to a connection assembly, comprising a withdrawable connector and a fixing foot, according to claim 1.

[0007] In the sense of the present invention, transverse means perpendicular or substantially perpendicular.

[0008] Substantially perpendicular means having an angle comprised between 80° and 100°.

[0009] According to an embodiment, the withdrawable connector comprises a connection terminal arranged to cooperate with an external conductor.

[0010] Said connection terminal being configured to electrically connect the external conductor to the conductive bar when the external conductor cooperates with the connection terminal.

[0011] Advantageously, the connection terminal is arranged for the external conductor to cooperate with said connection terminal by a relative movement in a direction opposed to the insertion direction.

[0012] Such a configuration, and more particularly the cooperation of the external socket with the connection socket by a relative movement in an insertion direction transverse to the first extension direction facilitates the insertion of said external socket.

[0013] In the sense of the present invention, an insulating body extending in a first extension direction does not necessarily mean that the first extension direction defines the largest dimension of said insulating body.

[0014] In particular, the fact that the insulating body extends in the first extension direction means that the insulating body has a certain thickness in the first extension direction.

[0015] According to an embodiment, the connector cooperation area defines a bottom surface, said bottom surface being transverse to the first extension direction.

[0016] According to an embodiment, the withdrawable connector comprises a top surface opposed to the bottom surface, said top surface being transverse to the first extension direction.

[0017] According to an embodiment said insulating body extends in the first extension direction from the bottom surface towards the top surface.

[0018] Advantageously, the top surface is substantially parallel to the bottom surface.

[0019] According to an embodiment, the withdrawable connector comprises a front face defined by the connection socket and opposed to a back face, said front face and back face being transverse to the insertion direction.

[0020] According to an embodiment, the connector cooperation area is configured to cooperate with the fixing foot in the mounting position by a relative displacement of the withdrawable connector in a longitudinal extension direction, said longitudinal extension direction being transverse to both insertion direction and first extension direction.

[0021] According to an embodiment, the connection socket comprises two opposing fixing recesses, each one being configured to receive a fixing unit of the external socket.

[0022] Such a configuration allows securing the cooperation between the connection socket and the external socket.

[0023] According to an embodiment, the withdrawable connector comprises two lateral faces which are sub-

stantially parallel to each other, said lateral faces being transverse to the longitudinal extension direction.

[0024] Such a configuration allows to place the withdrawable connector next of between other connectors. Said other connectors having a face in contact with the lateral faces of the withdrawable connector.

[0025] According to the invention, the withdrawable connector comprises a retaining finger configured to interface with an external finger of the external socket in a retained position, said retaining finger extending substantially in the insertion direction.

[0026] Such a configuration allows securing the cooperation between the connection socket and the external socket.

[0027] According to an embodiment the connection terminal comprises a leaf spring configured to maintain the external conductor in an inserted position in which connection terminal cooperate with said external conductor.

[0028] Such a configuration allows securing the cooperation between the connection terminal and the external conductor.

[0029] According to an embodiment the withdrawable connector has a displacement portion arranged to cooperate with a displacement element. Said displacement element imposing a stress in a direction opposed to the insertion direction I or a direction oblique with respect to the direction opposed to the insertion direction I. Said constraint imposed by the displacement element moves the leaf spring to release the external conductor of the inserted position.

[0030] Such a configuration allows the external conductor to be released from the inserted position.

[0031] According to an embodiment, the withdrawable connector comprises a connection terminal arranged to cooperate with an external conductor by a relative movement opposite to the insertion direction.

[0032] Such a configuration, and more particularly the cooperation of the external conductor with the connection terminal by a relative movement in the insertion direction transverse to the first extension direction facilitates the insertion of said external conductor.

[0033] According to the present invention, the withdrawable connector comprises two connector cooperation areas located on two opposite faces to each other, each one of the connector cooperation areas being configured to cooperate with the fixing foot.

[0034] Such a configuration allows the withdrawable connector to cooperate efficiently with the fixing foot. Indeed, the fixing foot can cooperate with the withdrawable connector using any of the connector cooperation areas.

[0035] According to an embodiment, each one of the connector cooperation areas comprises a detent system including a first portion provided on the fixing foot and a second portion provided on the withdrawable connector, the detent system being configured to maintain the mounting position when a force below a certain threshold is applied to the withdrawable connector and the fixing

foot according to the longitudinal extension direction.

[0036] Such a configuration allows to secure the fixing foot to the withdrawable connector and to provide a compact design.

[0037] According to the invention the fixing foot comprises:

a fixing portion configured to be fixed to a support; and

a body having a foot cooperation area configured to cooperate with a withdrawable connector, said body extending in a second extension direction from the fixing portion.

[0038] In the sense of the present invention, a body extending in a second extension direction does not necessarily mean that the second extension direction defines the largest dimension of said body.

[0039] In particular, the fact that the body extends in the second extension direction means that the body has a certain thickness in the second extension direction.

[0040] Such a configuration allows the fixing foot to be fixed to a support.

[0041] According to an embodiment the fixing portion comprises at least two fixing members configured to cooperate with two screws configured to be inserted in the support.

[0042] Such a configuration allows the fixing foot to be well fixed to the support.

[0043] According to an embodiment, the fixing portion comprises at least two attachment members configured to cooperate with a Ω -shaped rail.

[0044] Such a configuration allows the fixing foot to be fixed on a Ω -shaped rail.

[0045] According to an embodiment, the Ω -shaped rail may be a DIN rail for example.

[0046] According to an embodiment the fixing portion comprises a fixing surface configured to cooperate with a support surface substantially plane.

[0047] For the purposes of the present invention, substantially plane means "plane" or "plane to within 5%".

[0048] Such a configuration allows the connection assembly to be fixed on a support surface substantially plane.

[0049] According to an embodiment the fixing portion comprises at least two permanent fasteners configured to cooperate by snap-fit with the support.

[0050] Such a configuration allows the fixing foot to be well fixed to the support.

[0051] Such a configuration allows the fixing foot to quickly fixed to the support.

[0052] According to the invention, the fixing foot comprises a recess extending along a recess direction transverse to the second extension direction.

[0053] Such a configuration allows facilitate the cooperation with the withdrawable connector.

[0054] Such a configuration allows the external finger to be released from the retained position.

[0055] Advantageously, the recess is comprised between the fixing portion and the foot cooperation area.

[0056] According to an embodiment, the foot cooperation area comprises a detent system including a first portion provided on the fixing foot and a second portion in the withdrawable connector, the detent system being configured to maintain the foot cooperation area and the withdrawable connector in a mounting position when a force below a certain threshold is applied to the withdrawable connector and the fixing foot according to a foot extension direction, said foot extension direction being transverse to both recess direction and second extension direction.

[0057] Such a configuration allows to secure the fixing foot to the withdrawable connector and to provide a compact design.

[0058] The present invention also relates to a connection assembly comprising a withdrawable connector, and a fixing foot configured to cooperate with the withdrawable connector in the mounting position.

[0059] According to an embodiment, the withdrawable connector and the retaining finger create an insertion space configured to guide the external finger into the retained position.

[0060] Such a configuration facilitates the retained position setting up.

[0061] Such a configuration allows the external finger to be released from the retained position.

[0062] The different aspects defined above that are not incompatible can be combined.

Brief description of the drawings

[0063] The invention will be better understood with the aid of the detailed description which is set out below with reference to the appended drawings in which:

Figure 1 is a perspective schematic view of a withdrawable connector and a fixing foot according to one embodiment of the invention;

Figure 2 is a schematic view of a connection assembly according to one embodiment of the invention;

Figure 3 is a schematic view of a withdrawable connector and a fixing foot according to one embodiment of the invention; and

Figure 4 is a schematic view of a withdrawable connector, an external socket and a fixing foot according to one embodiment of the invention.

Description of the preferred embodiment

[0064] In the following detailed description of the figures defined above, the same elements or elements fulfilling identical functions may retain the same references so as to simplify the understanding of the invention.

[0065] Figure 1 and 4 describes a withdrawable connector 10 comprising an insulating body having a first connector cooperation area 32 and extending in a first

extension direction E1 from said first connector cooperation area 32. In the sense of the present invention, an insulating body extending in a first extension direction E1 does not necessarily mean that the first extension direction E1 defines the largest dimension of said insulating body. In particular, the fact that the insulating body extends in the first extension direction E1 means that the insulating body has a certain thickness in the first extension direction E1.

[0066] The first connector cooperation area 32 defines a bottom surface BS, said bottom surface BS being transverse to the first extension direction E1.

[0067] The withdrawable connector 10 comprises a top surface TS defined by a second connector cooperation area 32, said top surface TS being opposed to the bottom surface BS, and transverse to the first extension direction E1. In other words, the insulating body extends in the first extension direction E1 from the bottom surface BS towards the top surface TS. Advantageously, the top surface is substantially parallel to the bottom surface. In the sense of the present invention, substantially parallel means having an angle comprised between -10° and 10° .

[0068] The withdrawable connector 10 comprises a conductive bar 16 disposed in the insulating body and a connection socket 14. The connection socket 14 is arranged to cooperate with an external socket 15 by a relative movement in an insertion direction I transverse to the first extension direction E1. Said relative movement electrically connects said external socket 15 to the conductive bar 16 when the external socket 15 cooperates with the connection socket 14. In the sense of the present invention, transverse means perpendicular or substantially perpendicular. Substantially perpendicular means having an angle comprised between 80° and 100° . Such a configuration, and more particularly the cooperation of the external socket 15 with the connection socket 14 by a relative movement in an insertion direction I transverse to the first extension direction E1 facilitates the insertion of said external connection 15.

[0069] The connection socket 14 comprises two opposing fixing recesses, each one being configured to receive a fixing unit of the external socket 15. Such a configuration allows securing the cooperation between the connection socket 14 and the external socket 15.

[0070] The withdrawable connector 10 also comprises a connection terminal 12 arranged to cooperate with an external conductor by a relative movement in a direction opposed to the insertion direction I. Such a configuration, and more particularly the cooperation of the external conductor with the connection terminal 12 by a relative movement in the insertion direction I transverse to the first extension direction E1 facilitates the insertion of said external conductor. Said connection terminal 12 is configured to electrically connect the external conductor to the conductive bar 16 when the external conductor cooperates with the connection terminal 12.

[0071] The connection terminal 12 comprises a leaf spring 24 configured to maintain the external conductor

in an inserted position in which connection terminal 12 cooperate with said external conductor. Such a configuration allows securing the cooperation between the connection terminal 12 and the external conductor.

[0072] The withdrawable connector 10 comprises a displacement portion arranged to cooperate with a displacement element. Said displacement element imposing a stress in a direction opposed to the insertion direction I or a direction oblique with respect to the direction opposed to the insertion direction I. Said stress imposed by the displacement element moves the leaf spring 24 to release the external conductor of the inserted position. Such a configuration allows the external conductor to be released from the inserted position.

[0073] The withdrawable connector 10 comprises a front face FS defined by the connection socket 14 and opposed to a back face BF, said front face FS and back face BF being transverse to the insertion direction I.

[0074] The withdrawable connector 10 comprises a retaining finger 22 configured to interface with an external finger 23 of the external socket 15 in a retained position, said retaining finger 22 extending substantially in the insertion direction I. Such a configuration allows securing the cooperation between the connection socket 14 and the external socket 15.

[0075] As illustrated in figures 2 and 3, the two connector cooperation areas 32 are configured to cooperate with a fixing foot 60, in a mounting position by a relative displacement of the withdrawable connector 10 in a longitudinal extension direction L. Said longitudinal extension direction L being transverse to both insertion direction I and first extension direction E1. Such a configuration allows the withdrawable connector 10 to cooperate efficiently with the fixing foot 60. Indeed, the fixing foot 60 can cooperate with the withdrawable connector 10 using any of the connector cooperation areas 32.

[0076] Each one of the connector cooperation areas 32 comprises a detent system including a first portion provided on the fixing foot 60 and a second portion provided on the withdrawable connector 10. The detent system being configured to maintain the mounting position when a force below a certain threshold is applied to the withdrawable connector 10 and the fixing foot 60 according to the longitudinal extension direction L. Such a configuration allows to secure the fixing foot 60 to the withdrawable connector 10 and to provide a compact design.

[0077] The withdrawable connector 10 comprises two lateral faces LF which are substantially parallel to each other, said lateral faces LF being transverse to the longitudinal extension direction L. Such a configuration allows to place the withdrawable connector 10 next or between other connectors. Said other connectors having a face in contact with the lateral faces LF of the withdrawable connector 10.

[0078] The invention also relates to a fixing foot 60 comprising a fixing portion 82 configured to be fixed to a support.

[0079] According to an embodiment the fixing portion

82 comprises at least two fixing members configured to cooperate with two screws configured to be inserted in the support. Such a configuration allows the fixing foot 60 to be well fixed to the support.

[0080] According to an embodiment the fixing portion 82 comprises at least two attachment members 70, 72 configured to cooperate with a Ω -shaped rail. Such a configuration allows the fixing foot 60 to be fixed on a Ω -shaped rail. According to an embodiment, the Ω -shaped rail may be a DIN rail for example.

[0081] According to an embodiment the fixing portion comprises a fixing surface configured to cooperate with a support surface substantially plane. For the purposes of the present invention, substantially plane means "plane" or "plane to within 5%". Such a configuration allows the connection assembly to be fixed on a support surface substantially plane.

[0082] According to an embodiment the fixing portion 82 comprises at least two permanent fasteners configured to cooperate by snap-fit with the support. Such a configuration allows the fixing foot 60 to be well fixed to the support. Such a configuration allows the fixing foot 60 to quickly fixed to the support.

[0083] The fixing foot 60 also comprises a body having a foot cooperation area 72 configured to cooperate with a connector cooperation area 32, said body extending in a second extension direction E2 from the fixing portion 82. In the sense of the present invention, a body extending in a second extension direction E2 does not necessarily mean that the second extension direction E2 defines the largest dimension of said body. In particular, the fact that the body extends in the second extension direction E2 means that the body has a certain thickness in the second extension direction E2.

[0084] The fixing foot 60 comprises a recess 84 extending along a recess direction R transverse to the second extension direction E2. Said recess is comprised between the fixing portion 82 and the foot cooperation area 72. Such a configuration allows facilitate the cooperation between the fixing foot 60 and the withdrawable connector 10. More particularly, such a configuration allows the external finger to be released from the retained position.

[0085] According to a specific embodiment, the foot cooperation area 72 comprises a detent system including a first portion provided on the fixing foot 60 and a second portion in the withdrawable connector 10, the detent system being configured to maintain the foot cooperation area 72 and the withdrawable connector 10 in a mounting position when a force below a certain threshold is applied to the withdrawable connector 10 and the fixing foot 60 according to a foot extension direction F, said foot extension direction F being transverse to both recess direction R and second extension direction E2. Such a configuration allows to secure the fixing foot 60 to the withdrawable connector 10 and to provide a compact design.

[0086] The present invention also relates to a connection assembly comprising a withdrawable connector 10 and a fixing foot 60 configured to cooperate with the with-

drawable connector 10 in the mounting position.

[0087] The fixing foot 10, the withdrawable connector 60 and the retaining finger 22 create an insertion space configured to guide the external finger into the retained position. Such a configuration facilitates the retained position setting up. Such a configuration allows the external finger to be released from the retained position.

Claims

1. A connection assembly comprising a withdrawable connector (10) and a fixing foot (60) configured to cooperate with the withdrawable connector (10) in two mounting positions,

the withdrawable connector (10) comprising:

an insulating body having two connector cooperation areas (32), each being configured to cooperate, in a corresponding mounting position, with the fixing foot (60) configured to be fixed to a support, the two connector cooperation areas (32) being located on two opposite faces of the insulating body, said insulating body extending in a first extension direction (E1) from the connector cooperation area (32);
a conductive bar (16) disposed in the insulating body,
a connection socket (14) arranged to cooperate with an external socket (15);
said connection socket being configured to electrically connect the external socket (15) to the conductive bar (16) when the external socket (15) cooperates with the connection socket (14); and
wherein the connection socket (14) is arranged for the external socket (15) to cooperate with said connection socket (14) by a relative movement in an insertion direction (I) transverse to the first extension direction (E1);
wherein the withdrawable connector (10) comprises a retaining finger (22) configured to interface with an external finger (23) of the external socket (15) in a retained position, said retaining finger (22) extending substantially in the insertion direction (I),

the fixing foot (60) comprising :

a fixing portion (82) configured to be fixed to the support; and
a body having a foot cooperation area (72) configured to cooperate with the withdrawable connector (10), said body extending in a second extension direction (E2) from the

fixing portion (82),

wherein the fixing foot (60) comprises a recess (84) extending along a recess direction (R) transverse to the second extension direction (E2).

2. The connection assembly of claim 1, wherein the connector cooperation area (32) defines a bottom surface (BS), said bottom surface (BF) being transverse to the first extension direction (E1).
3. The connection assembly of claim 2, wherein the withdrawable connector (10) comprises a top surface (TS) opposed to the bottom surface (BS), said top surface (TS) being transverse to the first extension direction (E1).
4. The connection assembly according to any one of claims 1 to 3, wherein the withdrawable connector (10) comprises a front face (FS) defined by the connection socket (14) and opposed to a back face (BF), said front face (FS) and back face (BF) being transverse to the insertion direction (I).
5. The connection assembly according to any one of claims 1 to 4, wherein the connector cooperation areas (32) are configured to cooperate with the fixing foot (60) in a mounting position by a relative displacement of the withdrawable connector in a longitudinal extension direction (L), said longitudinal extension direction (L) being transverse to both insertion direction (I) and first extension direction (E1).
6. The connection assembly of claim 5, wherein the withdrawable connector (10) comprises two lateral faces (LF) which are substantially parallel to each other, said lateral faces (LF) being transverse to the longitudinal extension direction (L).
7. The connection assembly according to any one of claims 1 to 6, wherein the withdrawable connector (10) comprises a connection terminal (12) arranged to cooperate with an external conductor by a relative movement opposite to the insertion direction (I).
8. The connection assembly according to any one of claims 1 to 7, wherein each one of the connector cooperation areas (32) comprises a detent system including a first portion provided on the fixing foot (60) and a second portion provided on the withdrawable connector (10), the detent system being configured to maintain the mounting position when a force below a certain threshold is applied to the withdrawable connector (10) and the fixing foot (60) according to the longitudinal extension direction (L).
9. The connection assembly according to any one of claims 1 to 8, wherein the foot cooperation area (72)

comprises a detent system including a first portion provided on the fixing foot (60) and a second portion in the withdrawable connector (10), the detent system being configured to maintain the foot cooperation area (72) and the withdrawable connector (10) in a mounting position when a force below a certain threshold is applied to the withdrawable connector (10) and the fixing foot (60) according to a foot extension direction (F), said foot extension direction (F) being transverse to both recess direction (R) and second extension direction (E2).

10. The connection assembly of claim 9, wherein the fixing foot (60), the withdrawable connector (10) and the retaining finger (22) create an insertion space configured to guide the external finger into the retained position.

Patentansprüche

1. Baugruppe für eine Verbindung, umfassend einen ausziehbaren Verbinder (10) und einen Befestigungsfuß (60), der so konfiguriert ist, dass er mit dem ausziehbaren Verbinder (10) in zwei Positionen zum Montieren zusammenwirkt,

der ausziehbare Verbinder (10) umfassend:

einen Isolierkörper, der zwei Bereiche (32) für das Zusammenwirken der Verbinder aufweist, die jeweils so konfiguriert sind, dass sie in einer entsprechenden Montageposition mit dem Befestigungsfuß (60) zusammenwirken, der so konfiguriert ist, dass er an einer Stütze befestigt werden kann, wobei sich die beiden Bereiche (32) für das Zusammenwirken der Verbinder auf zwei gegenüberliegenden Seiten des Isolierkörpers befinden, wobei sich der Isolierkörper ausgehend von dem Bereich (32) für das Zusammenwirken der Verbinder in einer ersten Verlängerungsrichtung (E1) erstreckt;

eine leitende Schiene (16), die in dem isolierenden Körper angeordnet ist,

eine Verbindungsbuchse (14), die so angeordnet ist, dass sie mit einer externen Buchse (15) zusammenwirkt;

wobei die Verbindungsbuchse so konfiguriert ist, dass sie die externe Buchse (15) elektrisch mit dem leitenden Stab (16) verbindet, wenn die externe Buchse (15) mit der Verbindungsbuchse (14) zusammenwirkt; und

wobei die Verbindungsbuchse (14) so angeordnet ist, dass die externe Buchse (15) mit der Verbindungsbuchse (14) durch eine

Relativbewegung in einer Einführungsrichtung (I) quer zur ersten Erstreckungsrichtung (E1) zusammenwirkt;

wobei der herausziehbare Verbinder (10) einen Haltefinger (22) umfasst, der so konfiguriert ist, dass er mit einem externen Finger (23) der externen Buchse (15) in einer gehaltenen Position zusammenwirkt, wobei der Haltefinger (22) sich im Wesentlichen in der Einführungsrichtung (I) erstreckt,

der Befestigungsfuß (60), umfassend:

einen Abschnitt (82), der so konfiguriert ist, dass er an der Stütze befestigt werden kann; und

einen Körper mit einem Bereich (72) zum Zusammenwirken mit dem herausziehbaren Verbinder (10), wobei sich der Körper in einer zweiten Erstreckungsrichtung (E2) von dem Abschnitt (82) erstreckt,

wobei der Befestigungsfuß (60) eine Vertiefung (84) umfasst, die sich entlang einer Vertiefungsrichtung (R) quer zu der zweiten Erstreckungsrichtung (E2) erstreckt.

2. Baugruppe für eine Verbindung nach Anspruch 1, wobei der Bereich (32) für das Zusammenwirken der Verbinder eine untere Oberfläche (BS) definiert, wobei die untere Oberfläche (BF) quer zur ersten Ausdehnungsrichtung (E1) gerichtet ist.
3. Baugruppe für eine Verbindung nach Anspruch 2, wobei der herausziehbare Verbinder (10) eine obere Oberfläche (TS) umfasst, die der unteren Oberfläche (BS) gegenüberliegt, wobei die obere Oberfläche (TS) quer zur ersten Erstreckungsrichtung (E1) verläuft.
4. Baugruppe für eine Verbindung nach einem der Ansprüche 1 bis 3, wobei der herausziehbare Verbinder (10) eine Vorderseite (FS) umfasst, die durch die Buchse (14) definiert ist und einer Rückseite (BF) gegenüberliegt, wobei die Vorderseite (FS) und die Rückseite (BF) quer zur Einführungsrichtung (I) verlaufen.
5. Baugruppe für eine Verbindung nach einem der Ansprüche 1 bis 4, wobei die Bereiche (32), die mit dem Verbinder zusammenwirken, so konfiguriert sind, dass sie mit dem Befestigungsfuß (60) in einer Montageposition durch eine relative Verschiebung des einziehbaren Verbinders in einer Längsausdehnungsrichtung (L) zusammenwirken, wobei die Längsausdehnungsrichtung (L) sowohl quer zur Einführungsrichtung (I) als auch zur ersten Ausdehnungsrichtung (E1) verläuft.

6. Baugruppe für eine Verbindung nach Anspruch 5, wobei der ausziehbare Verbinder (10) zwei Seitenflächen (LF) umfasst, die im Wesentlichen parallel zueinander sind, wobei die Seitenflächen (LF) quer zur Längserstreckungsrichtung (L) verlaufen. 5
7. Baugruppe für eine Verbindung nach einem der Ansprüche 1 bis 6, wobei der herausziehbare Verbinder (10) eine Verbindungsklemme (12) umfasst, die so angeordnet ist, dass sie durch eine Relativbewegung entgegen der Einführungsrichtung (I) mit einem externen Leiter zusammenwirkt. 10
8. Baugruppe für eine Verbindung nach einem der Ansprüche 1 bis 7, wobei jeder der Bereiche (32), die mit dem Verbinder zusammenwirken, ein Arretierungssystem umfasst, das einen ersten Abschnitt, der am Befestigungsfuß (60) vorgesehen ist, und einen zweiten Abschnitt, der am herausziehbaren Verbinder (10) vorgesehen ist, umfasst, wobei das Arretierungssystem so konfiguriert ist, dass es die Montageposition beibehält, wenn eine Kraft unterhalb eines bestimmten Schwellenwerts auf den herausziehbaren Verbinder (10) und den Befestigungsfuß (60) gemäß der Längsausdehnungsrichtung (L) ausgeübt wird. 15 20 25
9. Baugruppe für eine Verbindung nach einem der Ansprüche 1 bis 8, wobei der Bereich (72), in dem der Fuß zusammenwirkt, ein Arretierungssystem umfasst, das einen ersten Abschnitt, der am Befestigungsfuß (60) bereitgestellt wird, und einen zweiten Abschnitt in dem herausziehbaren Verbinder (10) einschließt, wobei das Arretierungssystem so konfiguriert ist, dass es den Bereich des Zusammenwirkens des Fußes (72) und des herausnehmbaren Verbinders (10) in einer Position der Montage hält, wenn eine Kraft unterhalb eines bestimmten Schwellenwerts auf den herausnehmbaren Verbinder (10) und den Befestigungsfuß (60) nach einer Fußausdehnungsrichtung (F) ausgeübt wird, wobei die Fußausdehnungsrichtung (F) sowohl quer zur Richtung der Vertiefung (R) als auch zur zweiten Ausdehnungsrichtung (E2) verläuft. 30 35 40
10. Baugruppe für eine Verbindung nach Anspruch 9, wobei der Befestigungsfuß (60), der ausziehbare Verbinder (10) und der Haltefinger (22) einen Raum bilden, der so konfiguriert ist, dass er den äußeren Finger in die gehaltene Position führt. 45 50

Revendications

1. Ensemble de connexion comprenant un connecteur débrochable (10) et un pied de fixation (60) configuré pour coopérer avec le connecteur débrochable (10) dans deux positions de montage, 55

le connecteur débrochable (10) comprenant :

un corps isolant ayant deux zones de coopération de connecteur (32), chacune étant configuré pour coopérer, dans une position de montage correspondante, avec le pied de fixation (60) configuré pour être fixé à un support, les deux zones de coopération de connecteur (32) étant situées sur deux faces opposées du corps isolant, ledit corps isolant s'étendant dans une première direction d'extension (E1) à partir de la zone de coopération de connecteur (32) ;
une barre conductrice (16) disposée dans le corps isolant,
une prise de connexion (14) agencée pour coopérer avec une prise externe (15);
ladite prise de connexion étant configurée pour connecter électriquement la prise externe (15) à la barre conductrice (16) lorsque la prise externe (15) coopère avec la prise de connexion (14) ; et
dans lequel la prise de connexion (14) est agencée pour que la prise externe (15) coopère avec ladite prise de connexion (14) par un mouvement relatif dans une direction d'insertion (I) transversale à la première direction d'extension (E1) ;
dans lequel le connecteur débrochable (10) comprend un doigt de retenue (22) configuré pour s'interfacer avec un doigt externe (23) de la prise externe (15) dans une position de retenue, ledit doigt de retenue (22) s'étendant sensiblement dans la direction d'insertion (I),

le pied de fixation (60) comprenant :

une partie de fixation (82) configurée pour être fixée au support ; et
un corps ayant une zone de coopération de pied (72) configurée pour coopérer avec le connecteur débrochable (10), ledit corps s'étendant dans une deuxième direction d'extension (E2) à partir de la partie de fixation (82),
dans lequel le pied de fixation (60) comprend un évidement (84) s'étendant le long d'une direction d'évidement (R) transversale à la deuxième direction d'extension (E2).

2. Ensemble de connexion de la revendication 1, dans lequel la zone de coopération de connecteur (32) définit une surface inférieure (BS), ladite surface inférieure (BS) étant transversale à la première direction d'extension (E1).

3. Ensemble de connexion de la revendication 2, dans

- lequel le connecteur débrochable (10) comprend une surface supérieure (TS) opposée à la surface inférieure (BS), ladite surface supérieure (TS) étant transversale à la première direction d'extension (E1). 5
4. Ensemble de connexion selon l'une quelconque des revendications 1 à 3, dans lequel le connecteur débrochable (10) comprend une face avant (FS) définie par la prise de connexion (14) et opposée à une face arrière (BF), lesdites face avant (FS) et face arrière (BF) étant transversales à la direction d'insertion (I). 10
5. Ensemble de connexion selon l'une quelconque des revendications 1 à 4, dans lequel les zones de coopération de connecteur (32) sont configurées pour coopérer avec le pied de fixation (60) dans une position de montage par un déplacement relatif du connecteur débrochable dans une direction d'extension longitudinale (L), ladite direction d'extension longitudinale (L) étant transversale à la fois à la direction d'insertion (I) et à la première direction d'extension (E1). 15 20
6. Ensemble de connexion de la revendication 5, dans lequel le connecteur débrochable (10) comprend deux faces latérales (LF) qui sont sensiblement parallèles l'une à l'autre, lesdites faces latérales (LF) étant transversales à la direction d'extension longitudinale (L). 25 30
7. Ensemble de connexion selon l'une quelconque des revendications 1 à 6, dans lequel le connecteur débrochable (10) comprend une borne de connexion (12) agencée pour coopérer avec un conducteur externe par un mouvement relatif opposé à la direction d'insertion (I). 35
8. Ensemble de connexion selon l'une quelconque des revendications 1 à 7, dans lequel chacune des zones de coopération de connecteur (32) comprend un système d'encliquetage comprenant une première partie prévue sur le pied de fixation (60) et une deuxième partie prévue sur le connecteur débrochable (10), le système d'encliquetage étant configuré pour maintenir la position de montage lorsqu'une force inférieure à un certain seuil est appliquée au connecteur débrochable (10) et au pied de fixation (60) selon la direction d'extension longitudinale (L). 40 45 50
9. Ensemble de connexion selon l'une quelconque des revendications 1 à 8, dans lequel la zone de coopération de pied (72) comprend un système d'encliquetage comprenant une première partie prévue sur le pied de fixation (60) et une deuxième partie dans le connecteur débrochable (10), le système d'encliquetage étant configuré pour maintenir la zone de coopération de pied (72) et le connecteur débrochable (10) dans une position de montage lorsqu'une force inférieure à un certain seuil est appliquée au connecteur débrochable (10) et au pied de fixation (60) selon une direction d'extension de pied (F), ladite direction d'extension de pied (F) étant transversale à la fois à la direction d'évidement (R) et à la deuxième direction d'extension (E2). 55
10. Ensemble de connexion de la revendication 9, dans lequel le pied de fixation (60), le connecteur débrochable (10) et le doigt de retenue (22) créent un espace d'insertion configuré pour guider le doigt externe dans la position de retenue.

Fig. 1

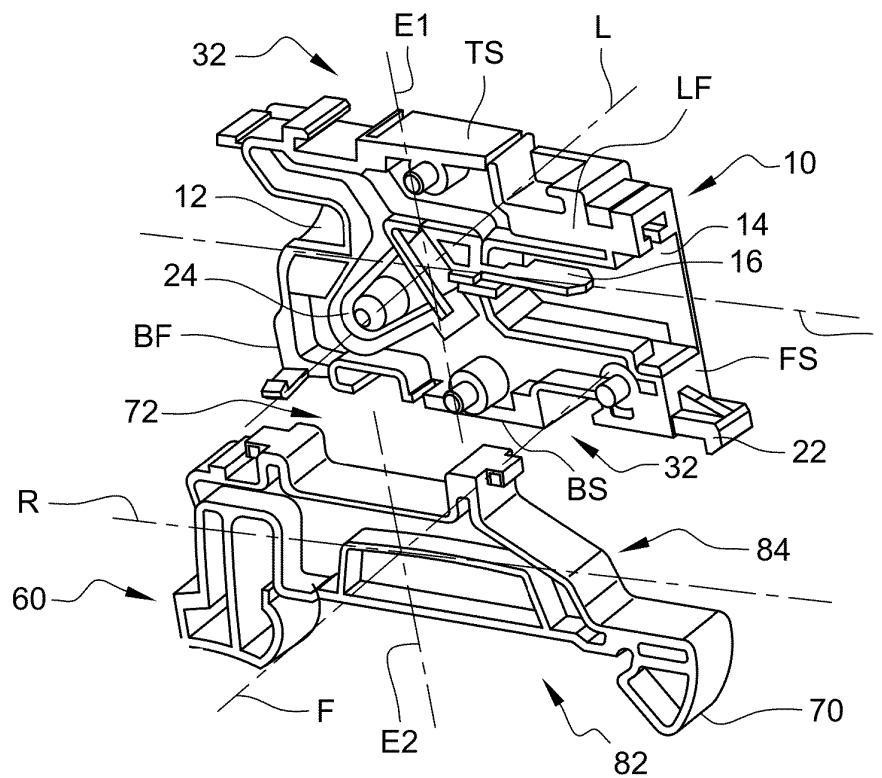


Fig. 2

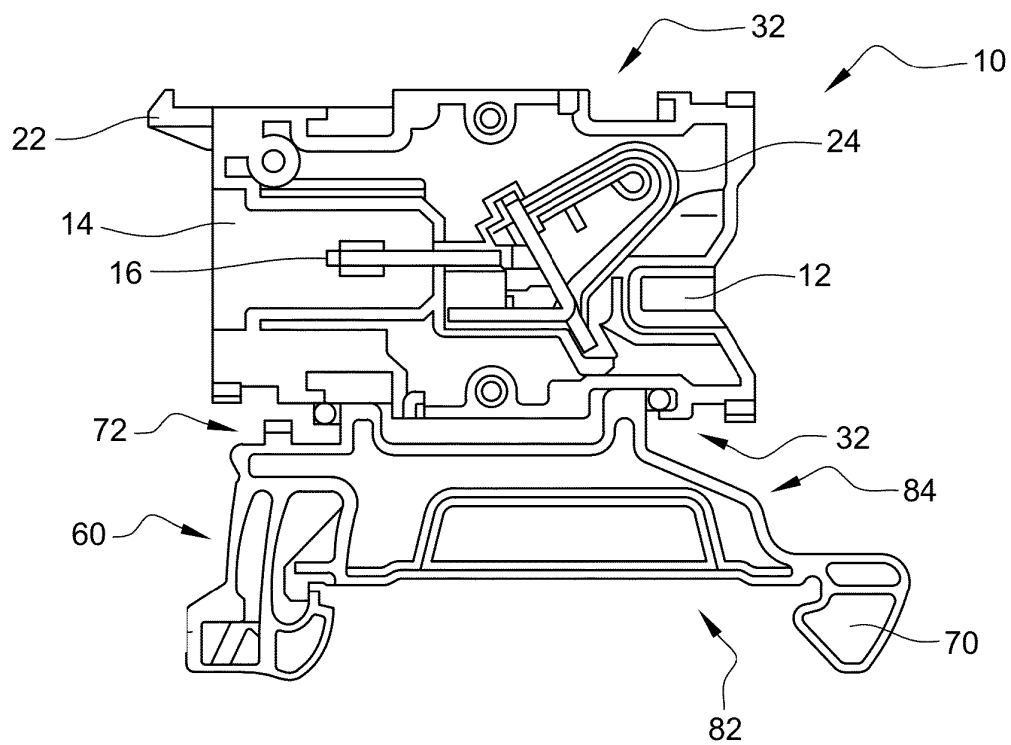


Fig. 3

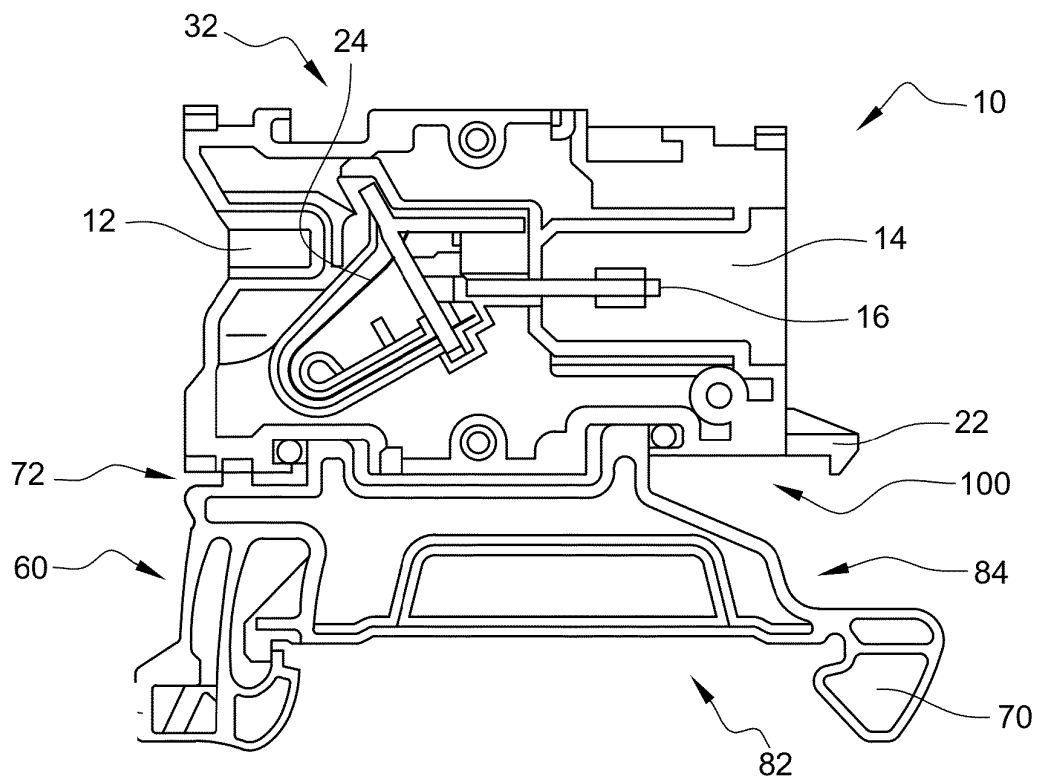
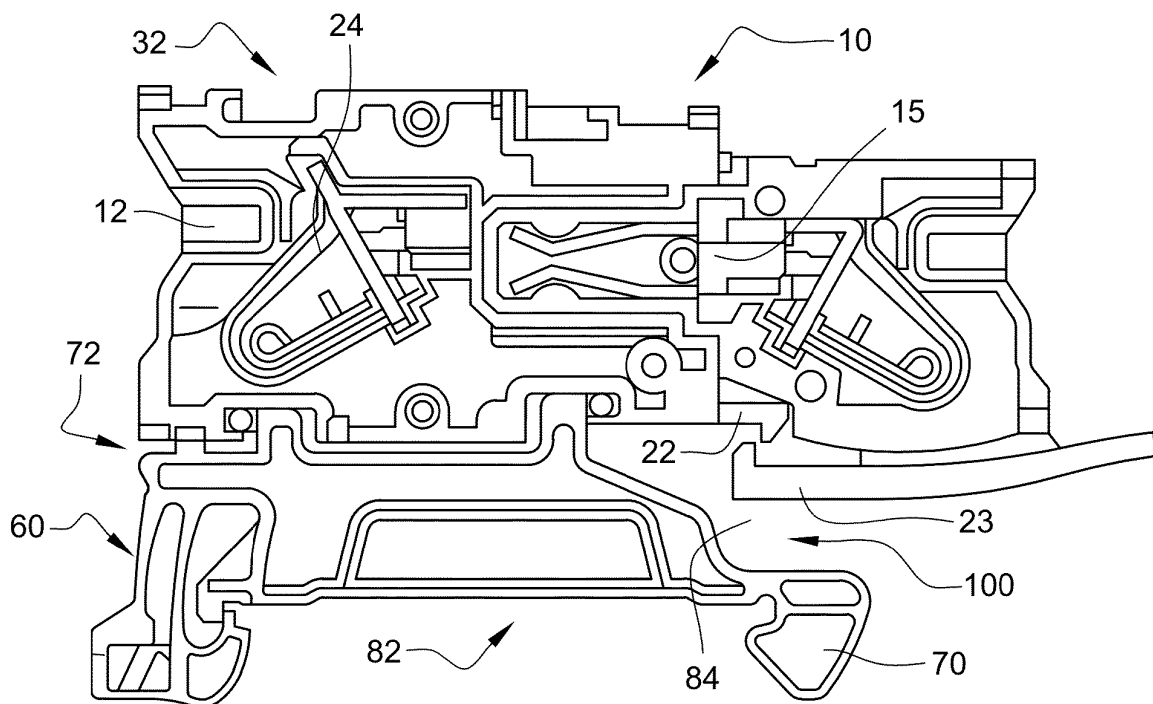


Fig. 4



REFERENCES CITED IN THE DESCRIPTION

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