Feeding and supporting device for electric components

Vorrichtung zum Zuführen und Halten von elektrischen Komponenten

Dispositif pour l’introduction et le support de composants électriques
Description

The present invention relates to a feeding and supporting device for electric components, of the type comprising the features recited in the preamble of claim 1.

In greater detail, the present invention, in the embodiment described, is conceived for making control panels having signal lights of the type usually associated with household electrical appliances, being obviously understood that the innovative concepts herein disclosed may be also utilized for uses different from the described ones.

It is known that in producing control panels of the type associated with household electrical appliances, lighting installations or other electrical apparatus, the arrangement of signal lights suitably connected to respective electric circuits is usually provided for the purpose of informing the operator, through switching on or off of each of the lights, about the operating state of one or more electric members to which the control panel is interlocked.

Generally said signal lights essentially consist of bulb microlamps suitably connected, upon interposition of electric resistors connected in series and/or in parallel, to respective connecting connectors arranged in the form of a printed circuit on a small connecting board also having the function of mechanically supporting the microlamps.

Connection of the microlamps and respective electric resistors to the conductors arranged on the small connecting board can be carried out for example by directly welding thread-like terminals associated with the microlamps and/or the electric resistors on the small board itself.

In other cases, a supporting element is provided to be associated with each signal light, which supporting element comprises a block of plastic material embodying appropriate contact elements for the operating engagement of the electric resistors, the thread-like terminals associated with the bulb microlamp being connected to said contact elements and being partly buried in the plastic material forming the block. Said contact elements are connected to a pair of terminals designed to be welded on the small connecting board made in the form of a printed circuit.

However the execution of said connecting operations by welding involves some problems both in terms of working costs and times and in terms of production flexibility in the automated installations presently in use in the manufacturing centers, as well as in terms of stock management of the produced pieces.

Documents DE-A-2 030 160 and GB-A-2 145 577 show devices of the type comprising a supporting element engageable by snug fitting through an opening provided on a support panel, and exhibiting a first engagement seat carrying a pair of contact plates between which a socket portion of a lamp is fitted. The supporting element is also provided with a second engagement seat containing a second electric component such as a resistance. The resistance has two thread-like terminals leading respectively to one of said contact plates and to a connecting terminal projecting outwardly from the bottom of the supporting element. A second connecting terminal projecting from the supporting element is electrically connected to the other contact plate provided within the first engagement seat.

US-A-5 061 189 discloses a lamp-socket assembly for use with printed circuit board, provided with a supporting element having a tubular housing which engages a lamp. The tubular housing is provided with oblique bottom walls for guiding thread-like terminals of the lamp to the outside of the tubular housing through outlet slots. The thread-like terminals of the lamp are bent on respective portions of the supporting element in order to be firmly hold in the desired position.

Document EP-A-0 072 034, which is herein referred as the most relevant prior art, shows the provision of a supporting element arranged for engagement with a connecting board carrying electric connecting conductors. The supporting element exhibits a tubular housing which engages a lamp. Bottom walls are provided within the tubular housing for guiding thread-like terminals of the lamp to the outside of the tubular housing through outlet slots at the end of the bottom walls. Moreover, the supporting element is also provided with second engagement portions for engaging plate-like contact element which provides an electrical connection between the thread-like terminals and the connecting conductors provided on the connecting board. More particularly, each of the thread-like terminals crosses the plate-like element and lie on the surface of this latter on the opposite side with respect to the surface of the second component, which acts against the supporting element.

A welding operation is carried out for firmly engaging the thread-like terminal on the plate-like contact element, as well as for granting a suitable electric connection between them.

The present invention relates to a feeding and supporting device for electric components, characterized by the features recited in the characterizing portion of claim 1.

In accordance with embodiments of the present invention, the above-mentioned problems are solved by providing a device in which all signal lights are associated, in a stable manner and by mere inserting operations to be carried in a completely automated fashion, with a supporting element to be engaged to the small connecting board by a snug fitting operation so as to obtain the simultaneous electric connection of all signal lights, without any welding and/or additional assembling operation being required.

Further features and advantages will become more apparent from the detailed description of a preferred embodiment of a feeding and supporting device for electric components in accordance with the present invention, given hereinafter by way of non limiting example.
with reference to the accompanying drawings, in which:

- Fig. 1 is a transverse sectional view of a feeding and supporting device in accordance with the invention;
- Fig. 2 is a partly cutaway perspective view showing a construction detail of the device in question;
- fig. 3 shows the detail of Fig. 2 seen from below.

Referring to the drawings, a feeding and supporting device for electric components in accordance with the present invention has been generally identified by reference numeral 1.

The device 1 comprises a small connecting board 2 with which a plurality of electric connecting conductors 3 is operatively associated, said conductors being connected to respective electric members to which the device 1 is interlocked, for example through connecting terminals 3a of known and conventional type, or through extensions of the conductors 3 themselves projecting from the connecting board edges.

Said electric members may also consist of switches, thermostats or similar operating devices directly associated with the device 1 and not shown as known and not of importance to the ends of the invention.

Advantageously, the connecting conductors 3 essentially consist of respective elastic thin plates made of conductive material, suitably supported by respective ribs 4 projecting from the connecting board 2, as better clarified in the following.

A supporting element 5 is engaged by snug fitting to the small board 2 by hooking means not shown as made in known manner, said supporting element being advantageously designed to engage one or more of the first electric components 6, as well as second electric components 7 electrically interposed between one of the connecting conductors 3 and one of the first electric components 6. In more detail, in the embodiment shown, each of the first electric components 6 is essentially formed with a bulb microlamp conventionally provided with two thread-like terminals 6a designed to supply the microlamp with current. The second components 7 essentially consist of electric resistors provided with end caps 7a of conductive material at which contact with the respective connecting conductor 3 and one of the thread-like terminals 6a of the microlamp 6 occurs.

Obviously, the microlamps 6 and/or resistors 7 may be replaced by other electric components such as diodes, capacitors or the like, depending on requirements.

Each of the microlamps 6 is disposed in a tubular housing 8 defined within one engagement portion 9 exhibited by the supporting element 5. This first engagement portion 9 advantageously has at least one bottom wall 10 obliquely intersecting the geometric axis "X" of the tubular housing 8. Preferentially, at least one second bottom wall 11 converging towards the first bottom wall 10 is also provided. The second bottom wall 11 terminates before intersecting said geometric axis "X", at an outlet slot 12 defined at the end of the first bottom wall 10, from which the thread-like terminals 6a of the microlamp 6 emerge.

A partition 13 associated with the first bottom wall 10 adjacent to the outlet slot 12 is interposed between the thread-like terminals 6 emerging from the slot itself, so that any possibility of a short circuit between said thread-like terminals is avoided.

The electric resistors 7 associated with each of the microlamps 6 are in turn housed in respective coupling seats 14 defined by a pair of second engagement portions 15 afforded by the supporting element 5. In particular, the coupling seats 14 extend parallel to the axis "X" of the tubular housing 8, in the extension of the outlet slot 12 and each of them engages the corresponding electric resistor 7 preferably by forced fitting. In the connection, each of the second engagement portions 15 may internally have at least one retaining lug 16 designed to abut on a shoulder 7b defined by the cap 7a made of conductive material associated at the end thereof with the resistor 7 so that said resistor, when fitting has occurred, will be retained in a stable manner in the corresponding coupling seat 14.

Advantageously, also defined in each of the second engagement portions 14 is an auxiliary slot 17 extending parallel to the "X" axis of the tubular housing 8 before the guide slot 12. Each of the auxiliary slots 17 lends itself to advantageously engage the end of the corresponding thread-like terminal 6a associated with the microlamp 6 so as to retain said terminal according to a predetermined orientation. For facilitating insertion of the terminals 6a in the auxiliary slots 17, auxiliary guide surfaces 18 converging towards the auxiliary slot itself away from the outlet slot 12 are defined in each of the coupling seats 14.

As viewed from the accompanying figures, the presence of one or more third engagement portions 24 may be provided, said portions consisting for example of fitting lugs externally projecting from the first bottom wall 10 and each designed to engage, by forced fitting, a third electric component that in the embodiment herein shown consists of an auxiliary electric resistor 25 arranged to get in touch with the connecting conductors 3 so as to carry out a connection in parallel between the thread-like terminals 6a of the corresponding microlamp 6.

The device 1 further comprises at least one front covering element 19 to be engaged to the supporting element 5, for example by snap fitting means generally denoted by 20 in Fig. 1 and not further described as known per se and conventional. This front covering element 19 is provided, in known manner, with a plurality of signal lights 21, each arranged before one of the housing 8 so that light emitted by the corresponding bulb microlamp 6 may be visible from the outside.

The assembling modalities of the device described above mainly as regards structure are as follows.

On production, the small connecting board 2 has the electric connecting conductors 3 disposed in the ap-
proportionate configuration so as to achieve a given circuit diagram for connection of the microclamps 6 and any external electric components, depending on the intended use of the device.

The supporting element 5, in turn, lends itself to be equipped with the bulb microclamps 6, the respective resistors 7 and, if necessary, the auxiliary resistors 25 by mere inserting operations to be carried out in a completely automated fashion. In particular, each of the microclamps 6 is first axially fitted in the corresponding housing 8. Concomitantly with this operation, the thread-like terminals 6a emerge from the slot 12 in an oblique orientation imposed by the orientation of the first bottom wall 10, and they introduce their ends into the auxiliary slots 17 formed in the second engagement portions 15.

At this point, resistors 7 can be axially fitted in the corresponding coupling seats 14. Following the execution of this operation, the thread-like terminals 6a, under the thrust of resistors 7 introduced into the corresponding seats 14, are such that they take an orientation perpendicular to the axis "X" of the corresponding housings 8. In this way, each microclamp 6 is engaged in a stable fashion to the supporting element 5 and, due to the orientation of the thread-like terminals 6a, its coming out of the housing 8 is prevented even in case of accidental overturnings or shakings.

Also the resistors 7 are fixedly housed in the respective coupling seats 14, by virtue of the interference action exerted by the retaining lugs 16 on the shoulders 7b defined by the corresponding caps of conductive material 7a arranged at the ends of the resistors themselves.

In conclusion, the supporting element 5 lends itself to undergo any manipulation that may be necessary or may take place during transportation, storage and following mounting without involving any risk of losing one or more of the electric components associated therewith.

Therefore, the supporting element 5 thus arranged can be engaged to the corresponding small connecting board 2 by a mere snug fitting operation. As a result of this operation, the simultaneous electric connection of all microclamps 6, the respective electric resistors 7 and auxiliary resistors 25, if any, to the connecting conductors 3 is achieved. The elastic thin plates forming the connecting conductors 3 lend themselves to act on the respective resistors 7 by urging them towards the thread-like terminals 6a in register therewith so as to ensure an excellent electric continuity.

The supporting element 5 and the corresponding connecting board 2 will be therefore engaged, upon connection of the terminals 3a to respective electric circuits arranged in the apparatus, to the front panel 22 of a household appliance or other apparatus with which the device 1 is going to be associated. This engagement operation will take place too with the aid of further fitting means 23 not described in detail as known and not of importance to the ends of the invention.

Assembling of the device 1 will be completed with the engagement of the front covering element 19 to the supporting element 5.

The present invention attains the intended purposes.

It is pointed out, in fact, that the expediency envisaged in the device in question make the connecting operations between the electric components and the corresponding small connecting boards much easier as compared to the connection systems adopted in the known art. It will be noted in particular that in the present invention assembling of the devices of the above type acquires a very modular character, due to the stable arrangement of all the electric components in the supporting element, and their simultaneous electric connection to the connecting conductors previously disposed on the small connecting board through a mere connecting operation by snug fitting between the supporting element and the small board.

Practically, there is the possibility of producing a great variety of feeding and supporting devices each designed to comply with particular operating requirements and making different electric diagrams by preparing different sets of connecting conductors having different shapes and/or lengths where each set will lend itself to be associated with a small connecting board for giving the finished device the required operating features.

Claims

1. A feeding and supporting device for electric components, comprising:
   - a small connecting board (2);
   - a plurality of electric connecting conductors (3) operatively associated with said small connecting board (2);
   - at least one supporting element (5) fastened to the small connecting board (2);
   - at least one engagement portion (9) carried by the supporting element (5) and defining a tubular housing (8) which engages operatively at least one first electric component (6) exhibiting at least two thread-like terminals (6a) arranged to be electrically connected to said connecting conductors (3);
   - at least one bottom wall (10) provided in said tubular housing (8), obliquely intersecting the axis ("X") of said tubular housing (8) and designed to get in contact with the thread-like terminals (6a) of the first component (6) for arranging them according to an inclined orientation and guide them to the outside of the tubular housing (8) through at least one outlet slot (12) disposed at the end of said one bottom wall (10);
- at least one second engagement portion (15) provided on said supporting element (5) and defining a coupling seat (14) extending in the extension of the outlet slot (12), said coupling seat being arranged to engage a second electric component (7) for providing an electrical connection between at least one of said electric connecting conductors (3) and one of the thread-like terminals (6a) carried by the first electric component (6), characterized in that said thread-like terminal (6a) is engaged between said supporting element (5) and the second electric component (7) and is arranged with respect to this latter in such a manner that a thrust action is exerted between the thread-like terminal (6a) and the second electric component (7).

2. A device according to claim 1, characterized in that it comprises at least one pair of said second engagement portions (15).

3. A device according to claim 2, characterized in that said second engagement portions (15) extend parallel to the axis ("X") of the tubular housing (6).

4. A device according to claim 1, characterized in that said first electric component (6) comprises a bulb microlamp, each of said second electric components (7) comprising an electric resistor connected between one of the electric connecting conductors (3) and one of the thread-like terminals (6a) of the bulb microlamp (6).

5. A device according to claim 4, characterized in that said supporting element (5) exhibits a plurality of said first engagement portions (9) engaging corresponding first electric components (6), a pair of said second engagement portions (15) being associated with each of said first electric components and housing respective second electric components (7) for arranging them in contact relationship each on a corresponding connecting conductor (3).

6. A device according to claim 5, characterized in that it further comprises a front covering element (19) to be engaged to said supporting element (5) and exhibiting a plurality of signal lights (21) each arranged before one of said microlamps (6).

7. A device according to claim 1, characterized in that said connecting conductors (3) comprise elastic thin plates arranged to act on the respective second electric components (7) for urging them against the thread-like terminals (6a) of the corresponding first electric component (6).

8. A device according to claim 1, characterized in that each of said second electric components (7) is engaged in the corresponding coupling seat (14) by forced fitting.

9. A device according to claim 8, characterized in that each of said second engagement portions (15) internally has at least one retaining lug (16) designed to abut on a shoulder (17b) afforded by the respective second electric component (7) for holding said electric component within the coupling seat (14).

10. A device according to claim 3, characterized in that each of said second engagement portions (15) exhibits an auxiliary slot (17) extending parallel to the axis of said tubular housing (8), in front of said outlet slot (12) and such arranged as to engage the end of the corresponding thread-like terminal (6a) for holding it in a predetermined orientation.

11. A device according to claim 10, characterized in that in each of said coupling seats (14) auxiliary guide surfaces (18) are defined that converge towards said auxiliary slot (17) away from said outlet slot (12), and arranged to get in contact with the ends of the thread-like terminals (6a) and guide them towards said auxiliary slot.

12. A device according to claim 1, characterized in that said first engagement portion (9) also has a second bottom wall (11) converging towards said first bottom wall (10).

13. A device according to claim 1, characterized in that associated with the first bottom wall (10) of said first engagement portion (9), adjacent to the outlet slot (12), is a partition (13) interposed between the thread-like terminals (6a) emerging from the slot itself.

14. A device according to claim 1, characterized in that said supporting element (5) and small connecting board (2) are mutually engaged by snug fitting.

Patentansprüche
1. Vorrichtung zum Zuführen und Halten von elektrischen Komponente, umfassend:
   - eine Verbindungsplatte (2);
   - eine Vielzahl von elektrischen Anschlußleitern (3), die wirksam der Verbindungsplatte (2) zugedient sind;
   - mindestens ein an der Verbindungsplatte (2) befestigtes Halteelement (5),
   - mindestens einen ersten Einsatzabschnitt (9) der vom Halteelement (5) getragen wird und eine
rohrförmige Aufnahme (8) festlegt, die wirksam mindestens eine erste elektrische Komponente (6) ergreift, die mindestens zwei drahtrörmige Anschlüsse (6a) aufweist, die mit den Anschlußleitern (3) elektrisch verbunden sind; 

- mindestens eine erste Bodenwand (10), die in der rohrförmigen Aufnahme (8) vorgesehen ist und die Achse (*X*) der rohrförmigen Aufnahme (8) schneidet und mit den drahtrörmigen Anschüssen (6a) der ersten Komponente (6) interferieren kann, um sie in geneigter Achschung bereitzustellen und von der rohrförmigen Aufnahme (8) durch mindestens einen Aussrittschlitz (12) zu führen, der endseitig an der ersten Bodenwand (10) angeordnet ist; 

- mindestens einen zweiten Einsatzabschnitt (15), der an den Halteelement (5) vorgesehen ist und eine Kupplungsaufnahme (14) festlegt, die sich in fortsetzung des Aussrittschlitzes (12) erstreckt, wobei die Kupplungsaufnahme dazu bereitgestellt ist, eine zweite elektrische Komponente (7) zu ergreifen, um eine elektrische Verbindung zwischen mindestens einem der elektrischen Anschlußleitern (3) und einem der drahtrörmigen von der ersten elektrischen Komponente (6) getragenen Anschlüsse (6a) herzustellen, 

dadurch gekennzeichnet, daß der drahtrörmige Anschluß (6a) zwischen dem Halteelement (5) und der elektrischen Komponente (7) in Eingriff steht und gegenüber dieser letzteter derart angeordnet ist, daß eine Schubkraft zwischen dem drahtrörmigen Anschluß (6a) und der elektrischen Komponente (7) ausgeübt wird.

2. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß sie mindestens ein Paar von zweiten Einsatzabschnitt (15) umfaßt.

3. Vorrichtung nach Anspruch 2, dadurch gekennzeichnet, daß die zweiten Einsatzabschnitte (15) sich parallel zur Achse (*X*) der rohrförmigen Aufnahme (8) erstrecken.

4. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß die erste elektrische Komponente (6) eine Kolbenmikrolampe umfaßt, wobei jede der zweiten Komponenten (7) einen elektrischen Widerstand aufweist, der zwischen einem der elektrischen Anschlußleiter (3) und einem der drahtrörmigen Anschlüsse (6a) der Mikrokolbenlampe (6) verbunden ist.

5. Vorrichtung nach Anspruch 4, dadurch gekennzeichnet, daß das Halteelement (5) eine Vielzahl von ersten Einsatzabschnitten (6) aufweist, die jeweilige erste elektrische Komponente (6) ergreifen, 

wobei ein Paar von zweiten Einsatzabschnitten (15) jeder der ersten elektrischen Komponenten zugeordnet ist und jeweilige zweite elektrische Komponenten (7) aufnimmt, um sie jeweils an einem entsprechenden Anschlußleiter (3) in Berührung zu bringen.

6. Vorrichtung nach Anspruch 5, dadurch gekennzeichnet, daß sie überdies ein stirnseitiges Abdeckelement (19) umfaßt, die mit dem Halteelement (5) in Eingriff gebracht werden kann und eine Vielzahl von Leuchtenzueigeugen (21) aufweist, die jeweils vor einer der Mikrolampen (6) angeordnet ist.

7. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß die Anschlußleiter (3) elastische Plättchen umfassen, die dazu bereitgestellt sind, auf die jeweiligen elektrischen Komponenten (7) zu wirken, um sie gegen die drahtrörmigen Anschlüsse (6a) der betreffenden ersten elektrischen Komponenten (6) zu drücken.

8. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß jede der zweiten elektrischen Komponenten (6) in der betreffenden Kupplungsaufnahme (14) durch Einpressen in Eingriff steht.

9. Vorrichtung nach Anspruch 8, dadurch gekennzeichnet, daß jeder der zweiten Einsatzabschnitte (15) innen mindestens einen Halteversprung (16) aufweist, der an einem Bund (7b) in Anschlag kommt, den die entsprechende zweite elektrische Komponente (7) aufweist, um die elektrische Komponente innerhalb der Kupplungsaufnahme (14) zurückzuhalten.

10. Vorrichtung nach Anspruch 3, dadurch gekennzeichnet, daß jeder der zweiten Einsatzabschnitte (15) einen Hilfschlitz (17) aufweist, der sich parallel zur Achse der rohrförmigen Aufnahme (8) vor dem Aussrittschlitz (12) erstreckt und derart angeordnet ist, daß das Ende des jeweiligen drahtrörmigen Anschlusses (6a) ergriffen wird, um diesen letzteren gemäß einer vorgegebenen Ausrichtung zu halten.


12. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß der erste Einsatzabschnitt (9) überdies eine zweite Bodenwand (11) aufweist, die in
Richtung der ersten Bodenwand (10) zusammenläuft.

13. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß der ersten Bodenwand (10) des am Austrittsschlitz (12) anliegenden Einsatzzabschnittes (9) eine Trennwand (13) zugeordnet ist, die zwischen den drahtförmigen aus dem Schlit selbst austretenden Anschlüssen (6a) liegt.

14. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß das Haltelement (5) und die Verbindungsplatte (2) gegeneinander verspannt sind.

**Revendications**

1. Dispositif pour l'introduction et le support de composants électriques, comprenant:

   - une plaquette de connexion électrique (2);
   - une pluralité de conducteurs de connexion électrique (3) associées de manière opératoire à ladite plaquette de connexion (2);
   - au moins un élément de support (5) fixé à la plaquette de connexion (2);
   - au moins une première portion d'engagement (9) portée par l'élément de support (5) et définissant un logement tubulaire (8) qui engage de manière opératoire au moins un premier composant électrique (6) présentant au moins deux bornes filiformes (6a) agencées de manière à être reliées électriquement auxdits conducteurs de connexion
   - au moins une première paroi de fond (10) prévue dans ledit logement tubulaire (8), couplant obliquement l'axe ("X") dudit logement tubulaire (8) et destinée à venir en contact avec les bornes filiformes (6a) du premier composant (6) pour les disposer selon une orientation inclinée et les guider vers l'extérieur du logement tubulaire (8) à travers au moins une fente de sortie (12) disposée à la fin de ladite première paroi de fond (10);
   - au moins une deuxième portion d'engagement (15) prévue sur ledit élément de support (5) et définissant un siège de couplage (14) s'étendant dans le prolongement de la fente de sortie (12), ledit siège de couplage étant agencé de manière à engager un deuxième composant électrique (7) et est disposée par rapport à ce dernier de telle sorte qu'une action de poussée est exercée entre la borne filiforme (6a) et le deuxième composant électrique (7).

2. Dispositif selon la revendication 1, caractérisé en ce qu'il comporte au moins deux desdites deuxièmes portions d'engagement (15).

3. Dispositif selon la revendication 2, caractérisé en ce que lesdites deuxièmes portions d'engagement (15) s'étendent parallèles à l'axe ("X") du logement tubulaire (8).

4. Dispositif selon la revendication 1, caractérisé en ce que ledit premier composant électrique (6) comporte une microlampe à ampoule, chacun desdits deuxièmes composants électriques (7) comprenant une résistance électrique reliée entre l'un des conducteurs de connexion électrique (3) et l'une des bornes filiformes (6a) de la microlampe à ampoule (6).

5. Dispositif selon la revendication 4, caractérisé en ce que ledit élément de support (5) présente une pluralité desdites premières portions d'engagement (9) engageant les premiers composants électriques correspondants (6), deux desdites deuxième portions d'engagement (15) étant associées à chacun desdits premiers composants électriques et recevant les deuxièmes composants électriques correspondants (7) pour les disposer en relation de contact chacun sur un conducteur de connexion (3) respectif.

6. Dispositif selon la revendication 5, caractérisé en ce qu'il comporte en outre un élément de couverture de face, destiné à être appliqué audiel élément de support (5) et présentant une pluralité de feux d'indication (21), chacun disposé devant l'une desdites microlampes (6).

7. Dispositif selon la revendication 1, caractérisé en ce que lesdits conducteurs de connexion (3) comportent des plaques minces élastiques destinées à agir sur les deuxièmes composants électriques respectifs (7) dans le but de les pousser contre les bornes filiformes (6a) du premier composant électrique correspondant (6).

8. Dispositif selon la revendication 1, caractérisé en ce que chacun desdits deuxièmes composants électriques (7) est inséré dans le siège de couplage correspondant (14) par enfoncement à force.

9. Dispositif selon la revendication 8, caractérisé en ce que chacune desdites deuxièmes portions d'engagement (15) prévoit à son intérieur au moins une
saillie de retenue (16) venant buter contre un épaulement (7b) présenté par le deuxième composant électrique respectif (7) pour maintenir ledit composant électrique dans le siège de couplage (14).

10. Dispositif selon la revendication 3, caractérisé en ce que chacune desdites portions d'engagement (15) présente une fente auxiliaire (17) s'étendant parallèlement à l'aile dudit logement tubulaire (8), devant ladite fente de sortie (12), et ménagée de manière à engager l'extrémité de la borne filiforme correspondante (6a) pour la maintenir selon une orientation prédéterminée.

11. Dispositif selon la revendication 10, caractérisé en ce que des surfaces de guidage auxiliaires (18) sont définies dans chacun desdits sièges de couplage (14), lesquelles convergent vers ladite fente auxiliaire (17) s'éloignant de la fente de sortie (12), et adaptée à venir en contact avec les extrémités des bornes filiformes (6a) et à les guider vers ladite fente auxiliaire.

12. Dispositif selon la revendication 1, caractérisé en ce que ladite première portion d'engagement (9) présente en outre une deuxième paroi de fond (11) convergant vers ladite première paroi de fond (10).

13. Dispositif selon la revendication 1, caractérisé en ce qu'une cloison (13) est associée à la première paroi de fond (10) de ladite première portion d'engagement (9), à proximité de la fente de sortie (12), cette cloison étant intercalée entre les bornes filiformes (6a) sortant de la fente elle-même.

14. Dispositif selon la revendication 1, caractérisé en ce que ledit élément de support (5) et ladite plaquette de connexion (2) sont réciproquement engagés par encastrement.