

A kit of parts for tapping selected contacts of an electrical connector

We have described in EP—A1—3 650 (Application No. 79300138.9) a plug member for use in tapping selected contacts in a plug receiving cavity of a multi-contact electrical receptacle connector, the contacts of which are terminated to the individual wires of a multi-wire telephone cable, the plug member having at least one pair of opposed electrical terminals supported by an insulating body having a plug portion which is pluggable into the cavity in such a way that each terminal frictionally engages a selected contact of the receptacle connector, each terminal having a wire receiving portion having a slot for receiving an insulated wire electrically to connect the metal core of the wire to the terminal.

This known plug member cannot be used with a standard receptacle connector, for example, a connector according to US—A—3,760,335, since the plug receiving cavity of the receptacle connector must be provided with notched internal barriers for supporting and guiding the plug portion of the plug member.

It is also essential that the receptacle connector be provided with an external flange for co-operation with a latch arm on the plug member, to secure it to the receptacle connector.

The present invention is directed to the provision of a kit of parts for use in tapping selected contacts of a receptacle connector, the use of which kit does not require modification of the connector or even of the provision of a flange thereon.

According to the present invention, a kit of parts for use in tapping selected contacts in a plug receiving cavity of a multi-contact electrical receptacle connector, the contacts of which are terminated to individual wires of a multi-wire telephone cable, the kit of parts comprising a plug member having at least one pair of opposed electrical terminals supported by an insulating body having a plug portion which is pluggable into the cavity in such a way that each terminal frictionally engages a selected contact of the receptacle connector, each terminal having a wire receiving portion having a slot for receiving an insulated wire electrically to connect the metal core of the wire to the terminal; is characterised in that it further comprises a face plate having a projecting flange and being adapted to be secured to the receptacle connector in such a way that a through opening in the face plate communicates with the cavity thereof, the opening being adapted snugly to receive the plug portion of the plug member to permit it to be plugged into the cavity; and a socket member provided with means for retaining the plug member therein, to constitute a module, with the plug portion projecting from the socket member for insertion in the cavity; means being

provided on the socket member for latching it to the flange of the face plate with the plug portion of the plug member projecting into the cavity in the receptacle connector, when the face plate has been assembled to the connector.

Since the face plate and the socket member serve to guide and support the plug member with respect to the cavity of the receptacle connector and since the socket member is latchable to the face plate, the receptacle connector requires no modification. The face plate can be secured to the receptacle connector by means of screws passed through the face plate into the usual mounting holes that are provided at the ends of the receptacle connector.

The socket member serves to insulate the wire receiving portions of the terminals of the plug member, when these members have been assembled to constitute the module. Wires can readily be inserted into the wire receiving portions by means of any suitable tooling, for example automated tooling, prior to the assembly of the plug member to the socket member. The two-piece plug and socket construction of the module thus facilitates the wiring of the plug member.

DE—A—1,690,230 discloses a face plate for attachment to a multi-contact electrical receptacle connector, but it does not disclose flanges on the face plate nor a socket member for co-operating with the face plate and for receiving the plug member therein to constituting a module.

The current state of the art is further exemplified by US—A—2,356,752, US—A—3,829,821, US—A—4,018,997, US—A—3,977,234, US—A—3,901,575 and US—A—4,103,985.

For a better understanding of the invention reference will now be made by way of example to the accompanying drawings in which:—

Figure 1 is an exploded, perspective view of a telephone line tapping assembly;

Figure 2 is an enlarged perspective view of the mating parts of a two-part module of the assembly, in an unmated position;

Figure 3 is an enlarged perspective view of the module of Figure 2, with the parts mated, and with a plug member of the module connected to a telephone line plug socket;

Figure 4 is a perspective view of the line tapping assembly connected to the telephone line plug socket, in association with a plug for insertion into the socket;

Figure 5 is an enlarged view taken on the lines V—V of Figure 4;

Figure 6 is a view taken on the lines VI—VI of Figure 3;

Figure 7 is an exploded perspective view of a junction box for the line tapping assembly

showing the plug socket and the module assembled to the box;

Figure 8 is an enlarged perspective view of an electrical terminal of the module;

Figure 9 is an exploded perspective view illustrating modifications of the line tapping assembly; and

Figure 10 is an enlarged view taken on the lines X—X of Figure 9, with parts omitted.

As shown in Figure 1, the insulating housing of a multiple wire-pair electrical plug receptacle connector 1, according for example to US—A—3,760,335, has a plug receiving cavity 2 containing a multiplicity of pairs of opposed electrical contacts 4 (best seen in Figure 5), terminated to respective wires (not shown) of a multiple wire pair telephone cable 6.

An elongate, moulded plastics face plate 8 is adapted to be mounted over the cavity 2 by means of screws 10 and 16 received in openings 12 and 20, respectively, in end lugs of the face plate 8 and in holes 14 and 18, respectively, in the ends of the housing of the connector 1. The plate 8 has a longitudinally extending row of plug receiving, through openings 22 each communicating with the cavity 2. A pair of parallel lip-like flanges 24 extend lengthwise of the plate 8, one on each side of the row of openings 22. The plate 8 also has a pair of parallel longitudinal side walls 26 adapted to receive between them a projecting hood 5 of the connector 1, into which hood the cavity 2 extends. Extending inwardly of each opening 22 from one side thereof is a keying rib 28, all the ribs 28 being in the same plane and extending in the same direction.

A line tapping module 30 for plugging into a selected opening 22, comprises a plug member 32 and a socket member 34. As best seen in Figure 2, the member 32 comprises a moulded insulating body 33 having side walls 36 in which are formed keying grooves 44 extending from the free end of a plug portion 40 projecting normally of one side of a laterally enlarged portion 42 of the body 33. On the other side of the portion 42, the body 33 is formed with upstanding barriers 46 projecting from opposite sides of an end wall 38 thereof and defining grooves containing wire receiving portions 52 of stamped and formed electrical terminals 48.

As best seen in Figure 8, each terminal 48 comprises a contact spring 50 formed integrally with its wire receiving portion 52. The portion 52 comprises parallel plates 54 and 56 connected by straps 57 at their ends remote from the wall 38. Wire receiving slots 59 and 59', are formed in the plates 54 and 56, respectively. The slot 59 is narrower than the slot 59' so that the walls of the slot 59 pierce the insulation of an insulated wire 60 inserted into the slots, to make electrical contact with the metal core of the wire, whereas the walls of the slot 59' merely bite into the insulation to provide strain relief for the wire 60. Such a

terminal is described in detail in US—A—3,760,335.

Each terminal 48 is assembled to the plug member 32 with its contact spring 50 disposed in a groove 58 in the plug portion 40 and with its wire receiving portion 52 disposed between two of the barriers 46, so that the terminals 48 are mounted on the body 33 in opposed pairs of terminals. A wire 60 is then inserted into the slots 59 and 59' of each terminal 58.

Each wire 60 is connected to a contact 61 of a telephone plug socket 62 (Figures 3 and 4) according, for example, to US—A—3,850,497.

As best seen in Figures 2 and 3, the socket member 34 of the module 30, is in the form of an open ended housing having side walls 64 connected by end walls 66 to define an internal cavity 68. Latching fingers 70 formed on the walls 66 have latching shoulders 71 which project into the cavity 68. Each wall 66 is formed internally with a pair of ribs 72 extending through the cavity 68, and has an external latch arm 74 connected thereto by a stem 76 (Figures 5 and 6), and being provided with a latching shoulder 78. The arms 74 extend in the opposite direction to the arms 70 so that the shoulders 78 are spaced beyond, and face towards, a rudimentary rear wall 80 of the socket member 34, which wall 80 defines an opening 82 (Figure 5). The shoulders 71 and 78 are accordingly oppositely directed. The arms 74 are dimensioned to be grasped between thumb and forefinger.

As will be apparent from Figures 2, 3 and 6, the plug member 32 is assembled to the socket member 34 by inserting the plug member 32 into the cavity 68 of the member 34 so that the arms 70 are resiliently forced away from one another by the portion 40 and reside upon full insertion of the member 32 into the cavity 68 so that the shoulders 71 of the arms 70 engage behind the wall 38 of the member 32 to restrain its withdrawal from the member 34. In the fully inserted position of the member 32 i.e. in the assembled condition of the module 30, the portions 40 and 42 lie beyond the wall 80 of the member 34 as shown in Figure 5. However, as shown in Figures 5 and 6, the barriers 46 lie within the cavity 68 in abutment with the wall 80 thereby limiting the insertion of the plug member 32. The ribs 72 engage in the mouths of the slots 59 and 59' of the terminals 48, to restrain egress of the wires therefrom.

With the module 30 assembled as described above, the plug portion 40 can be inserted through a selected opening 22 in the face plate 8, and into the cavity 2 of the connector 1, the ribs 28 intermeshing with the grooves 44, so that each contact spring 50 engages a contact 4 (Figure 5) and the shoulder 78 of each arm 74 latching engages behind the adjacent flange 24 of the plate 8, guided by a chamfered forward face 25 of the flange 24.

Since the enlarged portion 42 fits snugly into the opening 22 (as shown in Figure 5) and by

virtue of the engagement of the latch arms 74 with the flanges 24. The module 30 is secured against movement relative to the connector 1. The ribs 28 and grooves 44 ensure that the plug portion can be inserted into the opening 22 only in its correct orientation.

A telephone plug 86 (Figure 4), according, for example to US—A—3,860,316, connected to a telephone line cord 84 can now be plugged into the socket 62 to tap the wires of the cable 6 which are connected to those contacts 4 of the connector 1 which are engaged by the contact springs 50 of the terminals 48. Other modules 30 (not shown) may be employed in the manner described above to tap other selected wires of the cable 6.

A junction box shown in Figure 7 comprises a moulded plastics base 88 having a floor 90 from which project bosses 92 for use in securing the box to a support (not shown), and a cover 94. In use, the connector 1 (not shown in Figure 7) with the face plate 8 thereon, is laid on a cantilever rail 96 fixed to the base 88, and on the boss 92 on the left hand (as seen in Figure 7) of the rail 96, with one end of the face plate 8 loosely fitting in a hooked portions 97 of a flange upstanding from the floor 90. The cable 6 (not shown in Figure 7) is laid in a collar 98 formed on a side wall 100 of the base 88. The socket 62 is mounted in a slot 102 in the wall 100 with its plug receiving opening 103 facing outwardly thereof and with leads 60 extending to the module 30 which is plugged into a desired opening 22 in the face plate 8. The cover 94 has a cut-out 106 for receiving the cable 6 and collar 98, a cut-out 108 for receiving the socket 62 and a latch member 110 for co-operation with a latch member 112 on the base 88 to secure the cover 94 thereon.

According to the modification of Figures 9 and 10 in which parts which have already been described above bear the reference numerals used above, the face plate 20' has a single continuous, longitudinal, through opening 92', one flange 24' of the face plate 88' being formed with a series of parallel keyways 90'. The socket member 96' of the module 94' has a single latch arm 74, the other latch are being replaced by a pair of keys 98' for reception in a selected pair of the keyways 90' to guide the module 94' with respect to face plate 20' and to secure it thereto in co-operation with the latch arm 74. This modification enables closely spaced groups of contacts of the connector to be tapped by means of different modules 94'.

Claims

1. A kit of parts for use in tapping selected contacts (4) in a plug receiving cavity (2) of a multi-contact electrical receptacle connector (1), the contacts (4) of which are terminated to individual wires of a multi-wire telephone cable (6), the kit of parts comprising a plug member (32) having at least one pair of opposed elec-

trical terminals (48) supported by an insulating body (33) having a plug portion (40) which is pluggable into the cavity (2) in such a way that each terminal frictionally engages a selected contact (4) of the receptacle connector (1), each terminal having a wire receiving portion (52) having a slot (59) for receiving an insulated wire (60) electrically to connect the metal core of the wire (60) to the terminal (48); characterised in that it further comprises a face plate (8 or 20') having a projecting flange (24) and being adapted to be secured to the receptacle connector (1) in such a way that a through opening (22 or 92') in the face plate (8 or 20') communicates with the cavity (2) thereof, the opening (22 or 92') being adapted snugly to receive the plug portion (40) of the plug member (32) to permit it to be plugged into the cavity (2); and a socket member (34) provided with means (70, 80) for retaining the plug member (32) therein, to constitute a module (30), with the plug portion (40) projecting from the socket member (34) for insertion in the cavity (2); means (74) being provided on the socket member (34) for latching it to the flange (24) of the face plate (8 or 20') with the plug portion (40) of the plug member (34) projecting into the cavity (2) in the receptacle connector (1), when the face plate (8 or 20') has been assembled to the connector (1).

2. A kit of parts according to Claim 1, characterised by a telephone socket (62) having contacts (61) connected to insulated wires (60) which are in turn received in the slots (59) of the terminals (48) of the plug member (32).

3. A kit of parts according to Claim 2, characterised by a junction box (88, 94) for enclosing the receptacle connector (1) with the face plate (8 or 88') secured thereto, the module (30 or 94'), the insulated wires (60) and the telephone socket (62); the telephone socket (62) being mountable in a wall (100) of the junction box (88, 94) with a plug receiving opening (103) of the telephone socket (62) facing outwardly of the wall (100), the receptacle connector (1) being mountable on a support (96) within the junction box (88, 94) the junction box being adapted so that the telephone cable (6) with its wires connected to the contacts (4) of the receptacle connector (1) can extend through an opening (98) in the wall (100) of the junction box (88, 94).

4. A kit of parts according to Claims 1, 2 or 3, characterised in that the face plate (8) has a pair of opposed flanges (24), the socket member (34) having a pair of opposed latching members (74) each for latchingly engaging one of the flanges (24), the face plate (8) having a row of openings (22) each dimensioned snugly to receive the plug portion (40) of the plug member (32), each such opening (22) having therein an internal rib (28) for engaging in a complementary groove (44) in the plug portion (40).

5. A kit of parts according to Claim 1, 2 or 3,



(17)

virtue of the engagement of the latch arms 74 with the flanges 24. The module 30 is secured against movement relative to the connector 1. The ribs 28 and grooves 44 ensure that the plug portion can be inserted into the opening 22 only in its correct orientation.

A telephone plug 86 (Figure 4), according, for example to US—A—3,860,316, connected to a telephone line cord 84 can now be plugged into the socket 62 to tap the wires of the cable 6 which are connected to those contacts 4 of the connector 1 which are engaged by the contact springs 50 of the terminals 48. Other modules 30 (not shown) may be employed in the manner described above to tap other selected wires of the cable 6.

A junction box shown in Figure 7 comprises a moulded plastics base 88 having a floor 90 from which project bosses 92 for use in securing the box to a support (not shown), and a cover 94. In use, the connector 1 (not shown in Figure 7) with the face plate 8 thereon, is laid on a cantilever rail 96 fixed to the base 88, and on the boss 92 on the left hand (as seen in Figure 7) of the rail 96, with one end of the face plate 8 loosely fitting in a hooked portions 97 of a flange upstanding from the floor 90. The cable 6 (not shown in Figure 7) is laid in a collar 98 formed on a side wall 100 of the base 88. The socket 62 is mounted in a slot 102 in the wall 100 with its plug receiving opening 103 facing outwardly thereof and with leads 60 extending to the module 30 which is plugged into a desired opening 22 in the face plate 8. The cover 94 has a cut-out 106 for receiving the cable 6 and collar 98, a cut-out 108 for receiving the socket 62 and a latch member 112 for co-operation with a latch member 112 on the base 88 to secure the cover 94 thereon.

According to the modification of Figures 9 and 10 in which parts which have already been described above bear the reference numerals used above, the face plate 20' has a single continuous, longitudinal, through opening 92', one flange 24' of the face plate 88' being formed with a series of parallel keyways 90'. The socket member 96' of the module 94' has a single latch arm 74, the other latch are being replaced by a pair of keys 98' for reception in a selected pair of the keyways 90' to guide the module 94' with respect to face plate 20' and to secure it thereto in co-operation with the latch arm 74. This modification enables closely spaced groups of contacts of the connector to be tapped by means of different modules 94'.

Claims

1. A kit of parts for use in tapping selected contacts (4) in a plug receiving cavity (2) of a multi-contact electrical receptacle connector (1), the contacts (4) of which are terminated to individual wires of a multi-wire telephone cable (6), the kit of parts comprising a plug member (32) having at least one pair of opposed elec-

trical terminals (48) supported by an insulating body (33) having a plug portion (40) which is pluggable into the cavity (2) in such a way that each terminal frictionally engages a selected contact (4) of the receptacle connector (1), each terminal having a wire receiving portion (52) having a slot (59) for receiving an insulated wire (60) electrically to connect the metal core of the wire (60) to the terminal (48); characterised in that it further comprises a face plate (8 or 20') having a projecting flange (24) and being adapted to be secured to the receptacle connector (1) in such a way that a through opening (22 or 92') in the face plate (8 or 20') communicates with the cavity (2) thereof, the opening (22 or 92') being adapted snugly to receive the plug portion (40) of the plug member (32) to permit it to be plugged into the cavity (2); and a socket member (34) provided with means (70, 80) for retaining the plug member (32) therein, to constitute a module (30), with the plug portion (40) projecting from the socket member (34) for insertion in the cavity (2); means (74) being provided on the socket member (34) for latching it to the flange (24) of the face plate (8 or 20') with the plug portion (40) of the plug member (34) projecting into the cavity (2) in the receptacle connector (1), when the face plate (8 or 20') has been assembled to the connector (1).

2. A kit of parts according to Claim 1, characterised by a telephone socket (62) having contacts (61) connected to insulated wires (60) which are in turn received in the slots (59) of the terminals (48) of the plug member (32).

3. A kit of parts according to Claim 2, characterised by a junction box (88, 94) for enclosing the receptacle connector (1) with the face plate (8 or 88') secured thereto, the module (30 or 94'), the insulated wires (60) and the telephone socket (62); the telephone socket (62) being mountable in a wall (100) of the junction box (88, 94) with a plug receiving opening (103) of the telephone socket (62) facing outwardly of the wall (100), the receptacle connector (1) being mountable on a support (96) within the junction box (88, 94) the junction box being adapted so that the telephone cable (6) with its wires connected to the contacts (4) of the receptacle connector (1) can extend through an opening (98) in the wall (100) of the junction box (88, 94).

4. A kit of parts according to Claims 1, 2 or 3, characterised in that the face plate (8) has a pair of opposed flanges (24), the socket member (34) having a pair of opposed latching members (74) each for latchingly engaging one of the flanges (24), the face plate (8) having a row of openings (22) each dimensioned snugly to receive the plug portion (40) of the plug member (32), each such opening (22) having therein an internal rib (28) for engaging in a complementary groove (44) in the plug portion (40).

5. A kit of parts according to Claim 1, 2 or 3,



characterised in that the face plate (20') has a single elongate opening (92'), a flange (24) extending lengthwise of the opening (92') and along one side thereof, a row of keyways (90') which extends lengthwise of the opening (92') and along one side thereof, the socket member (94') having on one side a latch arm (74) for latchingly engaging the flange (24) and on its opposite side a set of keys (98') for reception in the keyways (90').

6. A kit of parts according to Claim 1 or 2, characterised in that the socket member (34 or 96') is in the form of an open ended housing, a wall (64) of which is formed with a latch arm (70) for engaging behind an end wall (38) of the plug member (32), a rudimentary wall (80) at one end of the socket member (34) serving to engage a stop (46) on the plug member (32) to limit its insertion into the socket member (34 or 96'), ribs (72) in the socket member (34) engaging in the mouths of the slots (59) of the terminals (48) when the plug member (32) has been fully inserted into the socket member (34).

Patentansprüche

1. Satz von Teilen zur Verwendung beim Anzapfen von ausgewählten Kontakten (4) in einem Steckeraufnahmehohlraum (2) eines elektrischen Buchsen-Verbinders (1) mit einer Mehrzahl von Kontakten (4), die an einzelne Drähte eines Telefonkabels (6) mit einer Mehrzahl von Drähten angeschlossen sind, wobei der Satz von Teilen ein Steckerteil (32) aufweist, das wenigstens ein Paar einander gegenüberliegender elektrischer Anschlüsse (48) besitzt, die von einem Isolierkörper (33) mit einem Steckerbereich (40) getragen sind, der in den Hohlraum (2) einsteckbar ist, derart, daß jeder Anschluß reibungsschlüssig an einem ausgewählten Kontakt (4) des Buchsen-Verbinders (1) angreift, wobei jeder Anschluß einen Drahtaufnahmehohlraum (52) mit einem Schlitz (59) zur Aufnahme eines isolierten Drahts (60) aufweist, um den Metallkern des Drahts (60) mit dem Anschluß (48) elektrisch zu verbinden, dadurch gekennzeichnet, daß der Satz von Teilen weiterhin aufweist: eine Frontplatte (8 oder 20'), die einen vorstehenden Flansch (24) aufweist und derart an dem Buchsen-Verbinder (1) befestigbar ist, daß eine Durchgangsöffnung (22 oder 92') in der Frontplatte (8 oder 20') mit dem Hohlraum (2) desselben in Verbindung steht, wobei die Öffnung (22 oder 92') für die eng anliegende Aufnahme des Steckerbereichs (40) des Steckerteils (32) ausgelegt ist, um ein Einsetzen desselben in den Hohlraum (2) zu gestatten; sowie ein Buchsenteil (34), das mit Einrichtungen (70, 80) zum Festhalten des Steckerteils (32) in diesem versehen ist, so daß ein Modul (30) gebildet wird, wobei der Steckerbereich (40) zum Einsetzen in den Hohlraum (2) von dem Buchsenteil (34) hervorsticht, wobei eine Einrichtung (74) an dem Buchsenteil (34) vorgesehen ist, die zur

Verriegelung desselben an dem Flansch (24) der Frontplatte (8 oder 20') dient, wobei der Steckerbereich (40) des Steckerteils (32) in den Hohlraum (2) in dem Buchsen-Verbinder (1) hineinragt, wenn die Frontplatte (8 oder 20') an dem Verbinder (1) montiert wurde.

2. Satz von Teilen nach Anspruch 1, gekennzeichnet durch eine Telefonbuchse (62) mit Kontakten (61), die mit isolierten Drähten (60) verbunden sind, die wiederum in den Schlitzen (59) der Anschlüsse (48) des Steckerteils (32) aufgenommen sind.

3. Satz von Teilen nach Anspruch 2, gekennzeichnet durch einen Anschlußkasten (88, 94) zum Umschließen des Buchsen-Verbinders (1) mit der daran befestigten Frontplatte (8 oder 88') des Moduls (30 oder 94') der isolierten Drähte (60) und der Telefonbuchse (62), wobei die Telefonbuchse (62) in einer Wand (100) des Anschlußkastens (88, 94) befestigbar ist, derart, daß eine Steckeraufnahmeöffnung (103) der Telefonbuchse (62) von der Wand (100) nach außen weist, und wobei der Buchsen-Verbinder (1) auf einem Träger (96) innerhalb des Anschlußkastens (88, 94) befestigbar ist und der Anschlußkasten derart ausgelegt ist, daß sich das Telefonkabel (6) mit seinen mit den Kontakten (4) des Buchsen-Verbinders (1) verbundenen Drähten durch eine Öffnung (98) in der Wand (100) des Anschlußkastens (88, 94) hindurch erstrecken kann.

4. Satz von Teilen nach Anspruch 1, 2 oder 3, dadurch gekennzeichnet, daß die Frontplatte (8) ein Paar einander gegenüberliegender Flansche (24) aufweist, daß das Buchsenteil (34) ein Paar einander gegenüberliegender Verriegelungselemente (74) aufweist, von denen jedes zum verriegelnden Angreifen an einem der Flansche (24) dient, daß die Frontplatte (8) eine Reihe von Öffnungen (22) aufweist, von denen jede so dimensioniert ist, daß sie den Steckerbereich (40) des Steckerteils (32) eng anliegend aufnehmen kann, wobei jede derartige Öffnung (22) eine innenliegende Rippe (28) zum Eingreifen in eine Komplementäre (nut (44) in dem Steckerbereich (40) aufweist.

5. Satz von Teilen nach Anspruch 1, 2 oder 3, dadurch gekennzeichnet, daß die Frontplatte (20') eine einzige längliche Öffnung (92'), einen sich längs der Öffnung (92'), und entlang einer Seite derselben erstreckenden Flansch (24), sowie eine Reihe von Schlüsselnuten (90') aufweist, die sich längs der Öffnung (92') und entlang einer Seite derselben erstreckt, und daß das Buchsenteil (94') auf einer Seite einen Verriegelungsarm (74) zum verriegelnden Angreifen an dem Flansch (24) und auf seiner gegenüberliegenden Seite einen Satz von Schlüsselrippen (98') zur Aufnahme in den Schlüsselnuten (90') aufweist.

6. Satz von Teilen nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß das Buchsenteil (34 oder 96') in Form eines offenendigen Gehäuses vorliegt, wobei eine Wand (64) desselben mit einem Verriegelungsarm (70) zum An-



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griepen hinter einer Endwand (38) des Stecker-
teils (32) ausgebildet ist, und eine rudimentäre
Wand (80) an einem Ende des Buchsentails
(34) zum Angreifen an einer Sperre (46) an dem
Steckerteil (32) dient, um das Einführen
desselben in das Buchsentail (34 oder 96') zu
begrenzen, und wobei Rippen (72) in dem
Buchsentail (34) in die Mündungen der Schlitze
(59) der Anschlüsse (48) eingreifen, wenn das
steckerteil (32) vollständig in das Buchsentail
(34) eingesetzt ist.

Revendications

1. Ensemble de pièces à utiliser pour réaliser
un branchement sur des contacts choisis (4)
d'une cavité (2) de réception de fiche d'un
connecteur électrique femelle (1) à contacts
multiples, dont les contacts (4) sont montés sur
les extrémités de fils individuels d'un câble télé-
phonique (6) à fils multiples, l'ensemble de
pièces comprenant un élément à fiche (32)
ayant au moins une paire de bornes électriques
opposées (48) supportées par un corps isolant
(33) ayant une partie (40) à enficher qui est
enfichable dans la cavité (2) de manière que
chaque borne porte par frottement contre un
contact choisi (4) du connecteur femelle (1),
chaque borne ayant une partie (52) de
réception de fil présentant une fente (59)
destinée à recevoir un fil isolé (60) pour
connecter électriquement l'âme métallique du
fil (60) à la borne (48); caractérisé en ce qu'il
comprend en outre une plaque frontale (8 ou
20') ayant une bride (24) en saillie et destinée à
être fixée sur la connecteur femelle (1) de
manière qu'une ouverture (22 ou 92') traver-
sant la plaque frontale (8 ou 20') communique
avec la cavité (2) du connecteur, l'ouverture (22
ou 92') étant destinée à recevoir étroitement la
partie à enficher (40) de l'élément à fiche (32)
pour lui permettre d'être enfiché dans la cavité
(2); et un élément à douille (34) comportant des
moyens (70, 80) destinés à retenir l'élément à
fiche (32) à l'intérieur de cet élément à douille,
afin de constituer un module (30), la partie à
enficher (40) dépassant de l'élément à douille
(34) pour être insérée dans la cavité (2); des
moyens (74) étant prévus sur l'élément à
douille (34) pour le verrouiller sur la bride (24)
de la plaque frontale (8 ou 20'), la partie à
enficher (40) de l'élément à fiche (34) pénétrant
alors dans la cavité (2) du connecteur femelle
(1) lorsque la plaque frontale (8 ou 20') a été
assemblée sur le connecteur (1).

2. Ensemble de pièces selon la revendi-
cation 1, caractérisé par une douille télé-
phonique (62) ayant des contacts (61)
connectés à des fils isolés (60) qui sont eux-
mêmes logés dans les fentes (59) des bornes
(48) de l'élément à fiche (32).

3. Ensemble de pièces selon la revendi-

cation 2, caractérisé par une boîte de jonction
(88, 94) destinée à renfermer le connecteur
femelle (1) auquel la plaque frontale (8 ou 20')
est fixée, le module (30 ou 94'), les fils isolés
(60) et la douille téléphonique (62); la douille
téléphonique (62) pouvant être montée dans
une paroi (100) de la boîte de jonction (88, 94)
de manière qu'une ouverture (103) de récep-
tion de fiche de la douille téléphonique (62) soit
tournée vers l'extérieur de la paroi (100), le
connecteur femelle (1) pouvant être monté sur
un support (96) à l'intérieur de la boîte de
jonction (88, 94), la boîte de jonction étant
conçue de manière que le câble téléphonique
(6), dont les fils sont connectés aux contacts (4)
du connecteur femelle (1), puisse passer dans
une ouverture (98) de la paroi (100) de la boîte
de jonction (88, 94).

4. Ensemble de pièces selon les revendi-
cations 1, 2 ou 3, caractérisé en ce que la
plaque frontale (8) comporte deux brides
opposées (24), l'élément à douille (34) ayant
deux éléments opposés (74) de verrouillage
destinés chacun à s'enclencher et se verrouiller
avec l'une des brides (24), la plaque frontale (8)
présentant une angée d'ouvertures (22)
dimensionnées chacune pour recevoir étroitement
la partie à enficher (40) de l'élément à fiche
(32), chacune de ces ouvertures (22)
présentant une nervure interne (28) destinée à
s'engager dans une rainure complémentaire
(44) de la partie à enficher (40).

5. Ensemble de pièces selon la revendi-
cation 1, 2 ou 3, caractérisé en ce que la plaque
frontale (20') présente une ouverture allongée
unique (92'), une bride (24) s'étendant le long
d'un côté de l'ouverture (92'), une rangée de
rainures de clavetage (90') qui s'étend le long
d'un côté de l'ouverture (92'), l'élément à
douille (94') ayant, sur un côté, un bras de
verrouillage (74) destiné à s'enclencher et se
verrouiller avec la bride (24) et, sur son côté
opposé, un jeu de clavettes (98') destiné à se
loger dans les rainures de clavetage (90').

6. Ensemble de pièces selon la revendi-
cation 1 ou 2, caractérisé en ce que l'élément à
douille (34 ou 96') se présente sous la forme
d'un boîtier ouvert à ses extrémités, une paroi
(64) qui est formée avec un bras (70) de
verrouillage destiné à s'enclencher en arrière
d'une paroi extrême (38) de l'élément à fiche
(32), une paroi rudimentaire (80) située à une
extrémité de l'élément à douille (34) et servant
à porter contre une butée (46) de l'élément à
fiche (32) pour limiter son insertion dans
l'élément à douille (34 ou 96'), des nervures
(72) situées dans l'élément à douille (34),
s'engageant dans les embouchures des fentes
(59) des bornes (48) lorsque l'élément à fiche
(32) a été totalement inséré dans l'élément à
douille (34).