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An improved electric plug assembly

This invention relates to an electric plug assembly of the kind in which the plug pins and associated conductor terminals are mounted in a preformed body of electrically insulating material, the conductors of a length of flexible insulated multi-conductor cable are electrically connected to appropriate terminals of the plug, and a moulded plug body of electrically insulating material wholly or partially encapsulates the preformed body and the plug pins and associated conductor terminals with an appropriate length of each pin protruding from a face of the plug assembly (hereinafter referred to as the rear face) and is permanently bonded to the insulating covering of a part of the length of the cable. See e.g. FR—A—2 092 206.

Electric plug assemblies of this kind will hereinafter for convenience, be referred to as "of the kind described".

The invention is especially, but not exclusively, concerned with three pin electric plug assemblies of the kind described suitable for use with domestic electrical appliances and with other three pin electric plug assemblies of the kind described which incorporate means for electrically connecting a cartridge fuse between the line pin and its associated conductor terminal.

According to the present invention we provide an improved electric plug assembly of the kind described, wherein a preformed cover of an electrically insulating material that is substantially harder than the moulded insulating material of the plug body is encapsulated in the moulded plug body and is of such a shape and form and is so connected to the preformed body that it bears against and overlies the inner ends of at least the line and neutral pins and associated conductor terminals thereby to hold said pins firmly in position in the preformed body and to form a guard between said terminals and the outer part of the plug body.

Preferably, the preformed cover bears against and overlies the inner ends of all the pins and associated conductor terminals thereby to hold all pins firmly in position in the preformed body and to form a guard be-tween terminals and the outer part of the plug body.

The provision of the preformed cover serves the dual purpose of holding the plug pins against which it bears firmly in position during moulding of the plug body and of eliminating or substantially reducing the risk that a conductor wire of conductor wires may protrude through the moulded plug body and constitute a dangerous hazard to a user of the plug.

Preferably, the preformed cover is initially detachably connected to the preformed body in which the plug pins and associated conductor terminals are mounted and in a preferred embodiment the preformed cover has protuberances which are snap fits in appropriately located holes or recesses in the preformed body.

In a preferred embodiment the preformed cover comprises a top and a side wall or side walls, an aperture being provided in a side wall, or one of the side walls being omitted, to provide access for the flexible cable.

The preformed cover may have protruding inwardly of its top, ribs which are so positioned that, when the cover is connected to the preformed body, they bear against the inner ends of the plug pins and hold them firmly in position during moulding of the plug body. Where the preformed body has separately formed cable-gripping means detachably mounted on the body, a rib or side wall of the preformed cover may hold the cable-gripping means firmly in position. Alternatively, a side wall of the preformed cover and a neighbouring part of the preformed body may be appropriately shaped so as to cooperate to form means for gripping the cable, or a side wall of the preformed cover may be appropriately shaped so as to form means for gripping the cable.

Where, for example, the moulded plug body is of urea or polyester, preferably the preformed cover is of nylon or polyester.

The invention also includes an improved method of manufacturing an improved electric plug assembly, which comprises the steps of effecting the electrical and/or mechanical connections between the plug pins and their associated conductor terminals and the electrical connections between the cable conductors and the conductor terminals: introducing the plug pins and their associated conductor terminals, with the cable conductors electrically connected thereto, into holes and recesses in the front face of the preformed body so that appropriate lengths of the pins protrude from the rear face thereof: characterised by connecting to the preformed body a preformed cover which is of a substantially hard electrically insulating material and which is of such a shape and form that it bears against and overlies the inner ends of at least the line and neutral pins and associated conductor terminals to hold said pins firmly in position in the preformed body: and moulding therearound an electrically insulating material to form a moulded plug body which wholly or partially encapsulates the preformed body, the preformed cover and the plug pins and associated conductor terminals and which is bonded to the insulating covering of a part of the lengths of the flexible cable.

Where the plug assembly is to include means for electrically connecting a cartridge fuse between the line pin and its associated conductor terminal, preferably said means comprises two spaced electrical contacts, one of which is electrically and/or mechanically connected to the line pin and the other to its

associated conductor terminal before they are introduced into the preformed body and which are introduced into slots in the front face of the body so that they protrude into a cartridge-fuse recess in the rear face of the body.

Alternatively, the two spaced electrical contacts are carried on a single preformed carrier or on two separate preformed carriers of insulating material, which contacts are electrically and/or mechanically connected to the line pin and its associated conductor terminal before they are introduced into the preformed body and which are introduced into a hole or holes in the front face of the body so that they protrude into a cartridge-fuse recess in the rear face of the body with their carrier or carriers fitting tightly in the hole or holes to prevent insulating material of the plug body from entering the fuse recess when it is moulded around the preformed body, the preformed cover and the pins and conductor terminals. Preferably, the two electrical contacts are carried on a carrier of rectangular shape which is a tight fit in a hole of corresponding shape. To ensure that the carrier is a tight fit in the hole, preferably the walls of the hole converge towards one another in a direction towards the rear face of the preformed body and the side faces of the carrier are of complementary shape, the tightness of the fit thereby increasing as the carrier is introduced into the hole from the front face of the body. One or each of the electrical contacts preferably is a spring clip for gripping a terminal of a cartridge fuse and also is preferably of such a shape and size, having regard to the size of its associated hole, that when the carrier on which the spring clip or clips is or are carried is fully home in the hole, the spring clips or clips effect a snap fit so that the carrier cannot subsequently be withdrawn.

The conductors of the flexible cable may be electrically connected to the conductor terminals in any convenient manner, a crimped connection being preferred.

Two preferred forms of 13A three pin electric plug assembly of the kind described in accordance with the invention will now be described, by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is an exploded view of a preformed body (with the plug pins and conductor terminals omitted) and a preformed cover of one plug assembly:

Figure 2 is a front view of the plug assembly in Figure 1 with the moulded plug body and preformed cover omitted;

Figure 3 is a sectional side view taken on the line III—III in Figure 2 with the preformed cover in position;

Figure 4 is a view, partly in section and partly in elevation, of the fuse clips carrier with two fuse clips mounted thereon;

Figure 5 is an exploded view of a preformed body (with the plug pins and conductor terminals omitted) and the preformed cover of an alternative three-pin electric plug assembly in accordance with the invention;

Figure 6 is a front view of the plug assembly in Figure 5 with the moulded body and preformed cover omitted;

Figure 7 is a sectional side view taken on the line VII—VII in Figure 6 with the preformed cover in position and with the conductors and conductor terminals omitted.

Referring to Figures 1 to 4, the electric plug assembly comprises a preformed body 1 of moulded plastics insulating material such as urea, a preformed cover 2 of moulded plastics insulating material such as nylon which is detachably connected to the body 1 and, encapsulating the cover 2 and the body 1 in such a way that the rear face 4 of the body is exposed, a plug body (not shown) of moulded thermoplastics material which is bonded to the insulating covering 11 of a flexible cable 10.

The preformed body 1 has apertures 21, 22 and 23 through which protrude a line pin 24, a neutral pin 25 and earth pin 26. Mechanically and electrically secured to the neutral pin 25 is a conductor terminal 28 to which the neutral conductor 14 of the flexible cable 10 is electrically connected by a crimped connection 31. A conductor terminal 29 is mechanically and electrically connected to the earth pin 26 and the earth conductor 15 of the flexible cable 10 is electrically connected to the terminal 29 by a crimped connection 32.

In snap engagement in a rectangular hole 33 in the preformed body 1 is a carrier 34 of moulded plastics material which carries at its opposite ends spring clips 35 and 36 located in a cartridge-fuse recess 37 in the rear face 4 of the body. As will be seen on referring to Figure 3, the walls of the hole 33 converge towards one another in a direction towards the rear face 4 of the body 1 and the side faces of the carrier 34 are of complementary shape, the tightness of the fit of the carrier in the hole thereby increasing as the carrier is introduced into the hole from the front face 5 of the body. The spring clips 35 and 36 are each of such a shape and size, having regard to the size of the hole 33, that when the carrier 34 is fully home in the hole, the spring clips effect a snap fit so that the carrier cannot subsequently be withdrawn.

Mechanically and electrically connected to the line pin 24 is a conductor terminal 27 which is electrically connected to the spring clip 35 through a length 30 of conductor, one end of which is electrically connected to the conductor terminal 27 by a crimped connection 38 and the other end of which is electrically connected to the spring clip 35 by a crimped connection 39. The line conductor 12 of the flexible cable 10 is electrically connected to the spring clip 36 by a crimped connection 40. The spring clips 35 and 36 are electrically connected through a cartridge fuse 41.

The cartridge-fuse recess 37 in the rear face 4 of the body 1 is closed by a removable

cover 42.

The preformed cover 2, which overlies and provides a guard for the electrical connections on the front face 5 of the preformed body 1, is detachably connected to the body 1 through stepped flexible protuberances 6, which are in snap engagement in holes 43 in the preformed body. The cover 2 has inwardly directed ribs 7 which bear against the ends of the conductor terminals connected to the pins and, when the cover is connected to the body 1, serve to retain the pins in their apertures. At one end of the cover 2 is an opening 9 for passage of the flexible cable 10, the cable being gripped to prevent strain from being imparted to the cable conductor connections by a separately formed cable-gripping member 45 which engages in a slot in the body 1 and is held therein by the cover 2. The cover 2 provides a guard against an unconnected wire or unconnected wires of a cable conductor from being caused to protrude through the plug body (not shown) during the moulding operation.

In manufacturing the electric plug assembly shown in the drawings, the conductor terminals are connected to the pins and the cable conductor connections are made before any of these parts are mounted on or in the preformed body 1, When these connections have been made, the pins 24, 25 and 26 are introduced into the apertures 21, 22 and 23, and the carrier 34 with the spring clips 35, 36 mounted thereon is introduced into the hole 33 from the front face of the preformed body 1 until the pins are fully insulated and the carrier has snapped into place in the hole. The cover 2 is next detachably connected to the preformed body 1, thereby retaining the pins, and the cable-gripping member 45 which has previously been applied to the flexible cable 10 and engage in the slot in the body 1, in position. The assembly so formed is then placed in an appropriately shaped mould and molten thermoplastics material is injected into the mould to form a plug body which is bonded to the insulating covering 11 of the cable 10 and which fully encapsulates all the electrical connections of the plug assembly, leaving the rear face 4 of the body 1 exposed for insertion of an appropriate fuse 41 and closure by the removable cover 42 after the plug body has cooled.

In the alternative electric plug assembly shown in Figures 5 to 7, the preformed cover 102 has a raised portion 103 to allow a clearance around the cable 104. The preformed body 101 has two pairs of slots 105 and 106, each of which receives an approximately U-shaped metal spring clip 107 and 108. An arm of each spring clip 107 and 108 passes through a slot of each pair of slots 105 and 106 so that the free ends of the arms protrude into a cartridge-fuse recess 109 in the rear face 110 of the preformed body 101. A cartridge fuse 111 electrically connects the spring clips 107 and 108. The line pin 112 is mechanically and electrically connected to one of the spring clips 107 by a strip of shaped metal sheet 113. In all other respects the electric plug assembly shown in Figures 5 to 7 is substantially the same as that in Figures 1 to 4.

Claims

1. An electric plug assembly of the kind which comprises a preformed body (1) of electrically insulating material, at least two plug pins (24, 25) and associated conductor terminals (27, 28) mounted in the preformed body, the conductors of a length of flexible insulated multi-conductor cable (10) being electrically connected to appropriate terminals of the plug, and a moulded plug body of electrically insulating material which wholly or partially encapsulates the preformed body and the plug pins and associated conductor terminals with an appropriate length of each pin protruding from the rear face (4) of the plug assembly and which is permanently bonded to the insulating covering (11) of a part of the length of the cable 10, characterised in that a preformed cover (2) of an electrically insulating material that is substantially harder than the moulded insulating material of the plug body is encapsulated in the moulded plug body and is of such a shape and form and is so connected to the preformed body (1) that it bears against and overlies the inner ends of at least the line and neutral pins (24, 25) and associated conductor terminals (27, 28) thereby to hold said pins firmly in position in the preformed body (1) and to form a guard between said terminals and the outer part of the plug body.

2. An electric plug assembly as claimed in Claim 1, characterised in that the preformed cover (2) bears against and overlies the inner ends of all the pins (24, 25, 26) and associated conductor terminals (27, 28).

3. An electric plug assembly as claimed in Caim 1 or Claim 2, characterised in that the preformed cover (2) is initially detachably connected to the preformed body (1) in which the plug pins and associated conductor terminals are mounted.

4. An electric plug assembly as claimed in Claim 3, characterised in that the preformed cover (2) has protuberances (6) which are snap fits in appropriately located holes (43) or recesses in the preformed body (1).

5. An electric plug assembly as claimed in any one of the preceding Claims, characterised in that the preformed cover (2) comprises a top and a side wall or side walls, an aperture (9) being provided in a side wall, or one of the side walls being omitted, to provide access for the flexible cable (10).

6. An electric plug assembly as claimed in any one of the preceding Claims, characterised in that the preformed cover (2) has protruding inwardly of its top, ribs (7) which are so positioned that, when the cover is connected to the

preformed body (1), they bear against the inner ends of the plug pins and associated conductor terminals and hold them firmly in position in the preformed body.

7. An electric plug assembly as claimed in any one of the preceding Claims, in which means are provided for electrically connecting a cartridge fuse between the line pin and associated conductor terminal, characterised in that said cartridge fuse connecting means comprises two spaced electrical contacts (35, 36) mounted on a carrier or carriers (34) which fits or fit tightly in a hole or holes (33) in the preformed body (1), the contacts protruding into a fuse recess (37) in the rear face of the preformed body.

8. An electric plug assembly as claimed in Caim 7, in which the two electrical contacts of the cartridge fuse connecting means are mounted on a single preformed carrier, characterised in that the carrier (34) is of rectangular shape and the hole (33) in the preformed body in which the carrier is a tight fit is of corresponding shape and has walls which converge towards one another in a direction towards the rear face (4) of the preformed body (1), the side faces of the carrier being of complementary shape.

9. A method of manufacturing an electric plug assembly in accordance with any one of the preceding Claims, comprising the steps of effecting the electrical and/or mechanical connections between the plug pins and their associated conductor terminals and the electrical connections between the cable conductors and the conductor terminals: introducing the plug pins and their associated conductor terminals, with the cable conductors electrically connected thereto, into holes and recesses in the front face of the preformed body so that appropriate lengths of the pins protrude from the rear face thereof; characterised by connecting to the preformed body a preformed cover which is of a substantially hard electrically insulating material and which is of such a shape and form that it bears against and overlies the inner ends of at least the line and neutral pins and associated conductor terminals to hold said pins firmly in position in the preformed body: and moulding therearound an electrically insulating material to form a moulded plug body which wholly or partially encapsulates the preformed body, the preformed cover and the plug pins and associated conductor terminals and which is bonded to the insulating covering of a part of the length of the flexible cable.

10. A method of manufacturing an electrical plug assembly as claimed in Claim 9, characterised in that, before the preformed cover is connected to the preformed body, electrical and/or mechanical connections are effected between two spaced electrical contacts mounted on a preformed carrier of a cartridge fuse connecting means and the line pin and its associated terminal, and the carrier is fitted tightly into a hole in the preformed body from the front face of the body so that the two spaced electrical contacts protrude into a fuse recess in the rear face of the preformed body.

Revendications

1. Une prise mâle électrique du type qui comprend un corps préformé (1) en matière isolante de l'électricité, au moins deux broches (24, 25) de prise et des bornes associées (27, 28) pour conducteurs montées dans le corps préformé, les conducteurs d'une longueur de câble multiconducteurs (10) souple et isolé étant reliés électriquement aux bornes appropriées de la prise et un corps de prise moulée en matière isolante de l'électricité qui enrobe entièrement ou partiellement le corps préformé et les broches de prise ainsi que leurs bornes associées pour conducteurs, une longueur appropriée de chaque broche faisant saillie de la face arrière (4) de la prise mâle, et qui adhère en permanence à la gaine isolante (11) d'une partie de la longueur du câble (10), caractérisée par le fait qu'un couvercle préformé (2), en une matière isolante de l'électricité qui est sensiblement plus dure que la matière isolante moulée du corps de la prise, est noyé dans le corps moulé de la prise et a une forme et un profil tels et est fixé de manière telle au corps préformé (1) qu'il porte, en les recouvrant, contre les extrémités intérieures d'au moins les broches de phase et neutre (24, 25) et leurs bornes associées pour conducteurs (27, 28), de manière à maintenir ainsi lesdites broches fermement en position dans le corps préformé (1) et à former une protection entre lesdites bornes et la partie extérieure du corps de la prise.

2. Une prise mâle électrique selon la revendication 1, caractérisée par le fait que le couvercle préformé (2) porte, en les recouvrant, contre les extrémités intérieures de toutes les broches (24, 25, 26) et leurs bornes associées (27, 28) pour conducteurs.

3. Une prise mâle électrique selon la revendication 1 ou 2, caractérisée par le fait que le couvercle préformé (2) est fixé initialement de façon amovible au corps préformé (1) dans lequel les broches de prise et leurs bornes associées pour conducteurs sont montées.

4. Une prise mâle électrique suivant la revendication 3, caractérisée par le fait que le couvercle préformé (2) comporte des saillies (6) qui s'ajustent par enclenchement dans des trous ou évidements (43) situés de façon appropriée dans le corps préformé (1).

5. Une prise mâle électriques suivant l'une quelconque des revendications précédentes, caractérisée par le fait que le couvercle préformé (2) comprend une paroi de dessus et une ou des parois latérales, une ouverture (9) étant ménagée dans une paroi latérale, ou bien l'une des parois latérales étant omise, pour offrir un

accès au câble souple (10).

6. Une prise mâle électrique suivant l'une quelconque des revendications précédentes, caractérisée par le fait que le couvercle préformé (2) comporte dans sa paroi supérieure des nervures (7) qui font saillie vers l'intérieur et qui sont disposées de manière telle que, lorsque le couvercle est fixé au corps préformé (1), elles portent contre les extrémités intérieures des broches de la prise et leurs bornes associées pour conducteurs et les maintient fermement en position dans le corps préformé.

7. Une prise mâle électrique suivant l'une quelconque des revendications précédentes, dans laquelle des moyens sont prévus pour connecter électriquement un fusible à cartouche entre la broche de phase et la borne associée pour conducteurs, caractérisée par le fait que ledit moyen de connexion de fusible à cartouche comprend deux contacts électriques espacés (35, 36) montés sur un ou des supports (34) qui s'ajustent étroitement dans un ou des trous (33) ménagés dans le corps préformé (1), les contacts faisant saillie dans un évidement (37) pour fusible ménagé dans la face arrière du corps préformé.

8. Prise mâle électrique suivant la revendication 7, dans laquelle les deux contacts électriques du moyen de connexion de fusible à cartouche sont montés sur un seul support préformé, caractérisée par le fait que le support (34) a une forme rectangulaire et que le trou (33) ménagé dans le support préformé et dans lequel le support s'ajuste de façon serrée a une forme correspondante et comporte des parois qui convergent l'une vers l'autre en direction de la face arrière (4) du corps préformé (1), les faces latérales du support ayant une forme complémentaire.

9. Procédé de fabrication d'une prise mâle électrique suivant l'une quelconque des revendications précédentes, comprenant les phases consistant: à effectuer les connexions électriques et/ou mécaniques entre les broches de la prise et leurs bornes associées pour conducteurs et les connexions électriques entre les conducteurs du câble et les bornes pour conducteurs; à introduire les broches de la prise et leurs bornes associées pour conducteurs, les conducteurs du câble étant reliés électriquement à ces dernières, dans des trous et des évidements ménagés dans la face avant du corps préformé de manière que des longueurs appropriées des broches fassent saillie de la face arrière de ce dernier, caractérisé par le fait que l'on fixe au corps préformé un couvercle préformé qui est en une matière isolante de l'électricité et sensiblement dure et qui a une forme et un profil tels qu'ils portent, en les recouvrant, contre les extrémités intérieures d'au moins les broches de phase et neutre et leurs bornes associées pour conducteurs de manière à maintenir lesdites broches fermement en position dans le corps préformé; et on moule autour de ce corps une matière isolante de l'électricité pour former un corps moulé de prise qui enrobe complètement ou partiellement le corps préformé, le couvercle préformé et les broches de la prise ainsi que leurs bornes associées pour conducteurs et qui adhère à la gaine isolante d'une partie de la longueur du câble souple.

10. Procédé de fabrication d'une prise électrique suivant la revendication 9, caractérisé par le fait que, avant que le couvercle préformé soit fixé au corps préformé, on effectue des connexions électriques et/ou mécaniques entre deux contacts électriques espacés montés sur un support préformé d'un moyen de connexion de fusible à cartouche et la broche de phase et sa borne associée, et on ajuste de façon serrée le support dans un trou du corps préformé à partir de la face avant du corps de manière que les deux contacts électriques espacés fassent saillie dans un évidement pour fusible ménagé dans la face arrière du corps préformé.

Patentansprüche

1. Elektrische Steckeranordnung mit einem vorgeformten Körper (1) aus elektrisch isolierendem Material, mindestens zwei Steckerzapfen (24, 25) und zugehörigen Leiteranschlüssen (27, 28), die in dem vorgeformten Körper befestigt sind, wobei die Leiter eines Stückes eines flexiblen, isolierten Mehrleiterkabels (10) mit den zugehörigen Anschlüssen des Steckers elektrisch verbunden sind, und mit einem geformten Steckerkörpers aus elektrisch isolierendem Material, der vollständig oder teilweise den vorgeformten Körper und die Steckerzapfen sowie die zugehörigen Leiteranschlüsse umschließt, wobei eine geeignetes Stück jedes Zapfens von der Rückseite (4) der Steckeranordnung aus vorsteht und wobei der Steckerkörper dauerhaft mit der isolierenden Hülle (11) eines Längenabschnitts des Kabels (10) verbunden ist, dadurch gekennzeichnet, daß eine vorgeformte Abdeckung (2) aus elektrisch isolierendem Material, das wesentlich härter ist als das geformte isolierende Material des Steckerkörpers, in dem geformten Steckerkörper eingeschlossen und so geformt und so mit dem vorgeformten Körper (1) verbunden ist, daß sie an den inneren Enden von zumindest dem stromführenden und dem neutralen Zapfen (24, 25) und den zugehörigen Leiteranschlüssen (27, 28) anliegt und diese umfaßt, um diese Zapfen im vorgeformten Körper (1) fest in ihrer Lage zu halten und um einen Schutz zwischen den Anschlüssen und dem äußeren Teil des Steckerkörpers zu bilden.

2. Elektrische Steckeranordnung nach Anspruch 1, dadurch gekennzeichnet, daß die vorgeformte Abdeckung (2) an den inneren Enden aller Zapfen (24, 25, 26) und den zugehörigen Leiteranschlüssen (27, 28) anliegt und diese umfaßt.

3. Elektrische Steckeranordnung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die vorgeformte Abdeckung (2) anfänglich lös-

bar mit dem vorgeformten Körper (1) verbunden ist, in dem die Steckerzapfen und die zugehörigen Leiteranschlüsse befestigt sind.

4. Elektrische Steckeranordnung nach Anspruch 3, dadurch gekennzeichnet, daß die vorgeformte Abdeckung (2) Vorsprünge (6) aufweist, die in geeignet angeordnete Offnungen (43) oder Aussparungen in dem vorgeformten Körper (1) einrasten.

5. Elektrische Steckeranordnung nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, daß die vorgeformte Abdeckung (2) eine obere Wand und mindestens eine Seitenwand aufweist, wobei eine Öffnung (9) in einer Seitenwand vorgesehen oder eine der Seitenwände weggelassen ist, um einen Zugang für das flexible Kabel (10) zu bilden.

6. Elektrische Steckeranordnung nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, daß die vorgeformte Abdeckung (2) oben nach innen vorstehend Ripppen (7) aufweist, die so angeordnet sind, daß sie bei Verbinden der Abdeckung mit dem vorgeformten Körper (1) an den inneren Enden der Steckerzapfen und den zugehörigen Leiteranschlüssen anliegen und diese in dem vorgeformten Körper fest in ihrer Position halten.

7. Elektrische Steckeranordnung nach einem der vorstehenden Ansprüche, bei der eine Einrichtung zum elektrischen Verbinden einer Patronensicherung zwischen dem stromführenden Zapfen und dem zugehörigen Leiteranschluß vorgesehen ist, dadurch gekennzeichnet, daß die die Patronensicherung verbindende Einrichtung zwei im Abstand angeordnete elektrische Kontakte (35, 36) aufweist, die auf einem Träger oder auf mehreren Trägern (34) befestigt sind, wobei der oder die Träger fest in eine Bohrung oder in mehrere Bohrungen (33) im vorgeformten Körper (1) eingepaßt sind und wobei die Kontakte in eine Sicherungsaussparung (37) in der rückseite des vorgeformten Körpers hineinragen.

8. Elektrische Steckeranordnung nach Anspruch 7, wobei die beiden elektrischen Kontakte der die Patronensicherung verbindenden Einrichtung auf einem einzigen vorgeformten Träger angeordnet sind, dadurch gekennzeichnet, daß der Träger (34) rechteckig ist und die Bohrung (33) im vorgeformten Körper, in die der Träger fest eingepaßt ist, eine entsprechende Form sowie Wände aufweist, die zur Rückseite (4) des vorgeformten Körpers (1) aufeinander zulaufen, wobei die Form der Seitenflächen des Trägers dazu komplementär ist.

9. Verfahren zum Herstellen einer elektrischen Steckeranordnung nach einem der vorstehenden Ansprüche mit den folgenden Verfahrensschritten zum Herstellen der elektrischen und/oder mechanischen Verbindungen zwischen den Steckerzapfen und ihren zugehörigen Leiteranschlüssen sowie der elektrischen Verbindungen zwischen den Kabelleitern und den Leiterschlüssen:

Einführen der Steckerzapfen und ihrer zugehörigen Leiteranschlüsse mit den mit diesen elektrisch verbundenen Kabelleitern in Bohrungen und Aussparungen in der Vorderseite des vorgeformten Körpers, so daß geeignete Längen der Zapfen aus dessen Rückseite vorstehen, gekennzeichnet durch

Verbinden des vorgeformten Körpers mit einer vorgeformten Abdeckung, die im wesentlichen aus hartem, elektrisch isolierendem Material besteht und derart geformt ist, daß sie an den inneren Enden von zumindest dem stromführenden Zapfen und dem neutralen Zapfen sowie an zugehörigen Leiteranschlüssen anliegt und diese umfaßt, um die Zapfen im vorgeformten Körper fest in Position zu Halten, und

Umformen mit einem elektrisch isolierenden Material zum Ausbilden eines geformten Steckerkörpers, der vollständig oder teilweise den vorgeformten Körper, die vorgeformte Abdeckung und die Steckerzapfen sowie die zugehörigen Leiteranschlüsse umschließt und mit der isolierenden Umhüllung eines Teilstücks des flexiblen Kabels verbunden ist.

10. Verfahren zum Herstellen einer elektrischen Steckeranordnung nach Anspruch 9, dadurch gekennzeichnet, daß vor dem Verbinden der vorgeformten Abdeckung mit dem vorgeformten Körper elektrische und/oder mechanische Verbindungen zwischen zwei im Abstand angeordneten, elektrischen Kontakten, die auf einem vorgeformten Träger einer eine Patronensicherung verbindenden Einrichtung befestigt sind, und dem stromführenden Zapfen und seinem zugehörigen Anschluß hergestellt werden, und daß der Träger fest in eine Bohrung in dem vorgeformten Körper von dessen Vorderseite so eingepaßt ist, daß die zwei im Abstand angeordneten, elektrischen Kontakte in eine Sicherungsaussparung in der Rückseite des vorgeformten Körpers ragen.

Fig. 1.

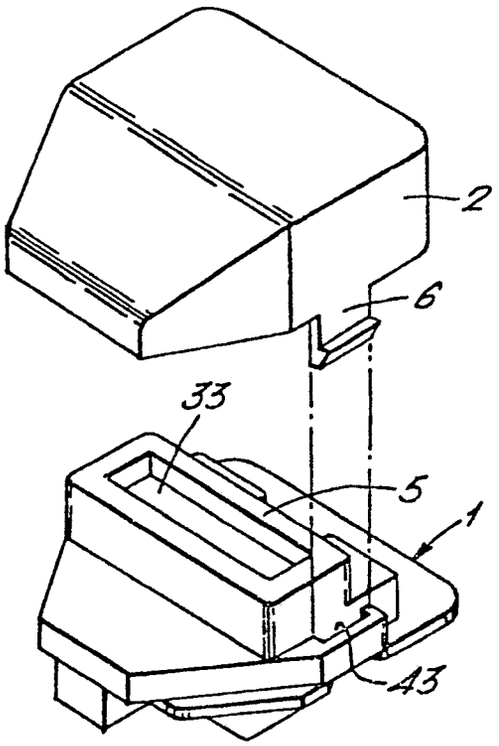

Fig. 4.

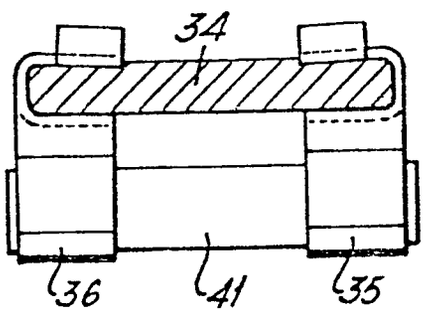

Fig. 2.

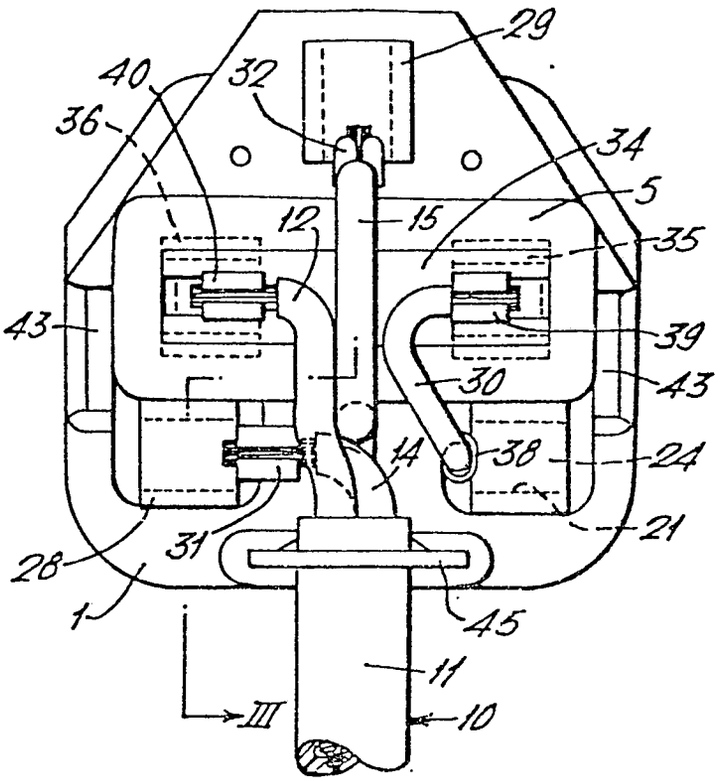
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Fig. 3.

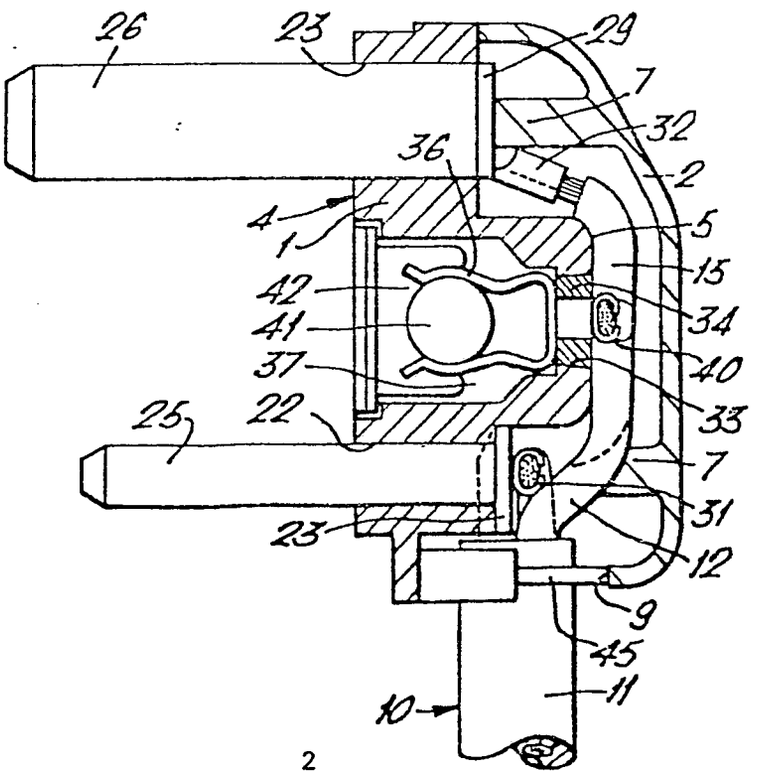
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Fig. 5.

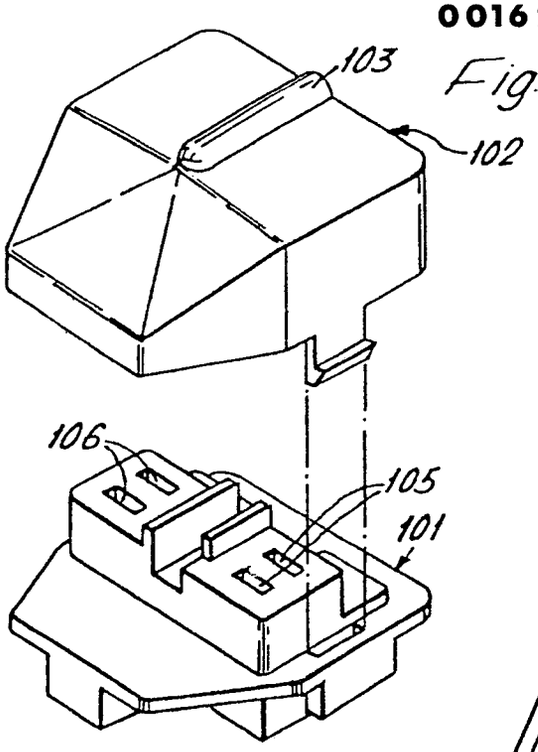

Fig. 6.

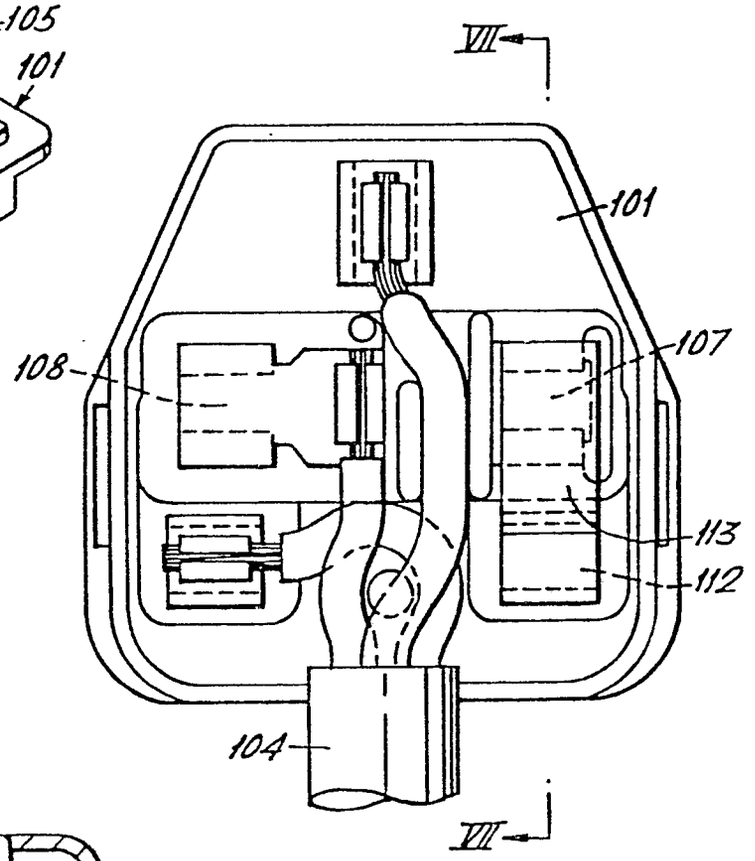

Fig. 7.