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(54) **Electrical connector**

Elektrischer Verbinder

Connecteur électrique

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EP 0 952 627 B1

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Description

[0001] The invention which is the subject of this application relates to a connector for the connection together of at least two electrical conductors which are used to supply electricity to premises and the like. Particularly, but not necessarily exclusively, the connector is for use in connecting together conductors when live, without adversely affecting the safety of the person using the connector. Yet further, the connector is of specific advantage in that it allows the connection together of live conductors which are carrying an electrical load and which, are regarded as being particularly dangerous to connect when live.

[0002] An electricity supply to a premises comprises a conductor cable which is connected to and branches from a larger conductor cable which in turn may be taken from a larger conductor cable to a transformer and so on back to the source. In practise, when a new conductor cable is required to be supplied to a new premises or number of premises, a connector can be used to connect the connector, even when live, relatively safely as long as the connector is insulated and the person using the same is prevented from having access to the conducting components which actually make the connection. This is due to the fact that, as the connection is being made for a conductor to premises where there is no load on same as the premises are new and are therefore not active, the connection of these conductors using an insulated connector is acceptable.

[0003] However, there is also a need on occasion to repair and reconnect conductors which may have been damaged or have failed due to, for example, excavation work by other utilities suppliers or overload of the conductors by the demand on the same. In some instances, when the conductor fails, the fuses at the transformer are tripped and in this case, as all the conductors are therefore down, the connection is relatively simple. However, in other instances, the transformer does not fail and therefore those premises which are attached to the conductor or conductors upstream of the failure continue to be supplied with electricity and it is only the premises downstream of the conductor failure which are cut off. In this instance, and given the new demands placed on the electricity provider due to customer charters and the like, there is a great unwillingness to cut off those premises upstream of the failure to allow the connection and repair of the conductors at the point of failure to take place when not live. Thus, there is a need to be able to repair and reconnect these conductors at the point of failure when still live. However, there is a specific problem in this instance in that there will almost always be a downstream load on the conductor when reconnected as it is more than likely that in at least some of the premises downstream there is a demand for electricity by components or facilities left switched on at the time of failure. This load, which can be for example, up to 600 amps, renders the live connection of the conductor cables particularly dangerous

and, in particular, causes arcing and sputtering to take place when the conventional connectors are brought into position to connect the same. This is undesirable and dangerous to the person handling the connection of the conductors.

[0004] Document GB697065 does disclose a connector with a switch which can be used to connect first and second conductors together in line with the switch being moved between electrical connection and disconnection positions. However this connector is for use in conjunction with an appliance such as a light unit which does not have its own switch control means such that the light unit can only be in an on condition when the switch of the connector is in an electrical connection position. Thus there is no possibility of arcing or sputtering occurring as there is no possibility of load being present upon the conductor leading to the light unit when the electrical connection is made. Also as the connector is for domestic purposes the voltage levels are significantly lower than the conductors used in the supply network to which this invention relates..

[0005] The aim of the invention is to provide a connector which can be used to connect live conductors to each other and especially, but not exclusively, conductors which may be carrying a load at that time so that the connection can take place safely and without undue danger to the persons using the connectors. It is also a further aim of the invention to provide a connector in a form whereby the same can be conveniently used in the connection of conductors which may be live or indeed conductors which may not be live, so that the said conductor can be used for a number of purposes or situations safely.

[0006] In a first aspect of the invention there is provided a connector for the electrical connection of at least a first, live, conductor to a second conductor, said connector including a body of insulating material housing a first contact means to electrically contact the first conductor and a spaced, second contact means to electrically contact the second conductor and a switch which is movable between an open position in which no electrical contact is made between the conductors and a closed position, in which electrical contact is made between the said first and second contact means so as to form the electrical connection between the said conductors and characterised in that the connector includes an insert, said insert provided in a position to maintain the switch in an open unconnected position, said insert is removable to allow the switch to move automatically to a closed contact position.

[0007] In one embodiment of the invention the said first and second contact means are inserts of electrically conductive material which are inserted and positioned within a connector body of insulating material so that the connector can be used to connect live conductors with the person using the connector only having to handle the insulating material body of the connector.

[0008] In a preferred embodiment, the first and second contact means are unitary members and each of the con-

ductors is clamped down onto the said contact means or alternatively the contact means is clamped onto the conductor. Typically, each contact means includes means for piercing the insulating material on said conductors so as to create electrical connection with the core of the conductor, which carries the electric supply

[0009] In an alternative embodiment, each contact means comprises two parts, one arranged to be clamped onto the conductor from one side of the same and the other part being clamped onto the conductor from the other side of the same.

[0010] In whichever embodiment, the conductor is preferably contacted with the contact face by the operation of at least one bolt, preferably a shear bolt, to bring the conductor into contact with the contact face. Typically, if the bolt is a shear bolt, the torque at which shear will occur is set so as to ensure that the contact means has pierced the insulating material and contacted with the core of the conductor to make the electrical contact.

[0011] In one embodiment the switch is provided so that movement of the switch between said open position and an position adjacent the closed position is relatively gradual but movement between the intermediate position and the closed position is relatively fast so as to prevent or minimise arcing from occurring if the connector is used to contact conductors which are carrying a load.

[0012] One mechanism which may be used for the switch is an over centre mechanism whereby the switch is moved gradually towards the closed position until an intermediate position is reached whereupon the switch is moved the remaining distance by a snap action. Typically the switch is moved to the position prior to the snap action by the turning of a screw which is connected with the body of the connector and which, in one embodiment, is a shear screw. Typically the snap action is created by the provision of a resilient member which, when the switch reaches the intermediate position, moves to expand and causes the snap action of the switch to make the connection. Although the contact pressure of the switch when initially closed by the snap action is provided by the resilient member, further rotation of the screw can be used to securely clamp together the switch connector faces to increase the current carrying capacity of the same, and retain the switch connector in a closed position.

[0013] The switch is biased towards the closed position but is retained in an open position by the provision of the insert such as a tab which can be selectively removed by the person using the connector to allow the switch to move to the closed position. The insert is typically formed of insulating material to allow safe handling by the person.

[0014] In this embodiment the insert is removed once the conductor cores are clamped into the connector in connection with the contact means so that the removal of the insert causes the switch to move to the closed position and make the electrical contact between the conductors.

[0015] In a further aspect of the invention there is pro-

vided a method of forming an electronic connection between at least a first, live, conductor to a second conductor, said second conductor connected to a further conductor and/or independently controllable electrical components or facilities downstream of the connection by which a load can be generated if in a switched on condition when electrical connection is made between the conductors by the connector, said conductor body formed of insulating material and including at least one electrical contact means for each of the conductors comprising the steps of:

gripping each of the live conductors by insulating material surrounding the cores thereof;
placing each of the conductors in position in the connector body;
moving the contact means onto respective conductors to make electrical contact with the same and characterised in that the contact means are electrically separated by a switch in an open position and, when the contact means are in connection with the respective conductors, the switch is moved to the closed position to electrically connect the contact means and hence conductors by removing an insert which is initially provided to maintain the switch in an open condition and removal of the insert causes the switch to move automatically to a closed contact position.

[0016] In one embodiment the switch connector is mechanically moved to an intermediate position for which the switch connector automatically moves to the closed position.

[0017] Specific embodiments of the invention will now be described with reference to the accompanying drawings, wherein:-

Figures 1A and 1B illustrate one part of the connector body according to one embodiment of the invention;

Figures 2A and 2B illustrate the other part of the connector body;

Figures 3A -3C illustrate in end elevation the first and second parts of the connector body in use to connect electrical conductor cables; and

Figure 4 illustrates a detailed view of one embodiment of the switch.

Figures 5A and B illustrate an alternative embodiment of the invention.

[0018] Referring to the drawings, Figures 1A and 1B illustrate what, in the embodiment shown, is a lower body part of the connector in plan and end elevation respectively. The part 2 is formed from insulating material 4 and, inserted into the insulating material is a first contact

means 6 formed of an electrically conducting material and a second contact means 8 also formed of electrically conductive material. In the embodiment shown, the first and second contact means 6, 8 are unitary members and are positioned to run along a significant length of the reception area 10 and 12 respectively for the conductors. Each of the first and second contact means 6, 8 are provided with insulating piercing formations 14 which, when the conductor cables are clamped onto the contact means, serve to pierce the insulating materials and contact the cores of the cables. Also provided is a switch 16 which is mounted in relation to the body part 4 and is shown in more detail in the following figures but, in general, is movable between an open position as shown in Figure 1A and a closed position in which electrical contact is made with the first and second contact means 6, 8 to form the electrical connection between the conductors placed therein. There are also provided first and second bolt holes 18, 20 for the reception of shear bolts therein and a further hole 22 for the reception of a bolt to cause the switch 16 to move between open and closed positions.

[0019] Turning now to Figures 2A and 2B, there is shown the second part of the connector 24 which includes first and second location means 26, 28 in which the conductor cores are located when placed in position in the connector. There are also provided apertures 30, 32 for the reception of the locking bolts which pass through the same and into engagement in the holes 18 and 20 of the first connector body part 4 which are threaded.

[0020] Turning now to Figures 3A-3C, there is illustrated in schematic fashion the first and second body parts 4 and 24 in use in electrically connecting two conductor cables 34, 36. In Figure 3A, it is illustrated how the conductor cables 34, 36 are located in location means 26, 28 of the body part 24 and the piercing formations 14 of the first and second electrical contact means 6 and 8. The switch 16 is also illustrated in an open position in which it remains as the first and second body parts 4, 24 are forced together by means of locking bolts, not shown and as indicated by arrows 38. As the first and second body parts 4, 24 are brought together, so the piercing means 14 serve to pierce the insulating material 40 surrounding the core 42 of each of the conductors 34, 36 and make electrical contact between the first and second contact means and the respective cores of the conductors. This position is illustrated in Figure 3B and at that stage, the switch 16 is moved to an intermediate position as illustrated in Figure 3B and which, it will be seen, is almost a closed position. This switch is moved by the movement of a screw, not shown but as illustrated by arrow 44. When the switch 16 is brought to the intermediate position as shown in Figure 3B, continued movement of the screw as indicated by arrow 46 in Figure 3C, causes a "snap" movement of the switch to a fully closed position as shown and for contact to be made between the first contact means 6 and second contact means 8 via switch 16, and hence the conductor cores 42 of con-

ductors 34, 36 are electrically connected via the connector according to the invention. Furthermore, as the final movement of the switch to the closed position from the intermediate position is by a snap action, the occurrence of arcing between the contact means 8 and the switch 16 is prevented.

[0021] Figure 4 illustrates in more detail, a reverse angle view of the switch as shown in Figures 3A-3C. and illustrates the components which allow the switch to be moved between open and closed positions. It will therefore be seen that in this embodiment the screw 50 which is used to move the switch by turning of the screw in relation to the connector body includes a resilient spring 52. The switch 16 is provided at one with a pivotal point connection 54 with the contact means 6 so that electrical connection between the switch and contact means 6 is possible and, within the body of the switch there is provided a member 56 which is acted upon by a spring 58, said spring attempting to force the member outwardly from the switch face 60 as indicated to contact with the face 62 of the contact means 8.

[0022] The spring 52 in the screw 50 is weaker than the spring 58 in the switch 16 when in the position shown in full lines. Thus, movement of the screw 50 onto the switch causes a gradual movement of the switch towards a closed position until an intermediate position of the same, which is indicated in broken lines 64, is reached. At this position, the strength of the spring 52 becomes greater than the compressed spring 58 in the switch so that the spring 52 causes the pointed portion 66 to move outwardly and exert a snap movement on the switch 16 from the intermediate position 64 to the fully closed position in contact with the contact means 8 and hence create the electrical contact between the contact means 6 and 8. It is this snap action which prevents arcing from occurring as the movement is sufficiently quick. Although the contact pressure of the switch when initially closed by the snap action is provided by the resilient member, further rotation of the screw 50 can be used to securely clamp together the switch contact faces to increase the current carrying capacity of the same and ensure that the contact is maintained.

[0023] Referring now to Figures 5A and B there is shown an alternative embodiment of connector wherein there is provided an insert 100 in the form of a tab, which retains the switch 102 of the connector body 104 in an open position. The switch is biased to the closed position to make electrical connection between the contact means by a force applied to the switch to move it to the closed position. Thus, in use when the insert is removed, the switch moves automatically to the closed position to form the electrical connection between the contact means 106, 108 in contact with in-line conductor cores 110, 112 respectively.

[0024] It should be pointed out that it is envisaged that any suitable mechanism can be arranged and used to allow the contact action of the switch to be effected and so it should be clear that the invention is not limited by

the example herein.

[0025] Thus the present invention provides a connector which can be safely used to connect electrical conductors when the same are not live, when the same are live and, furthermore when the same are live and carrying a load..

Claims

1. A connector for the electrical connection of at least a first, live, conductor (34) to a second conductor (36), said connector including a body (4;24) of insulating material (4) housing a first contact means (6) to electrically contact the first conductor and a spaced, second contact means (8) to electrically contact the second conductor and a switch (16) which is movable between an open position in which no electrical contact is made between the conductors and a closed position, in which electrical contact is made between the said first and second contact means (6;8) so as to form the electrical connection between the said conductors and **characterised in that** the connector includes an insert (100), said insert provided in a position to maintain the switch in an open unconnected position, said insert is removable to allow the switch to move automatically to a closed contact position.
2. A connector according to claim 1 **characterised in that** the first and second contact means are inserts of electrically conductive material which are inserted and positioned within the connector body of insulating material so that the connector can be used to connect live conductors with the person using the connector handling the insulating material body.
3. A connector according to claim 1 **characterised in that** the first and second contact means are unitary members and each contact means is clamped onto a conductor.
4. A connector according to claim 3 **characterised in that** the contact means include a means for piercing insulating material on the conductors to create electrical connection with the core of the conductor.
5. A connector according to claim 1 **characterised in that** each contact means comprises at least two parts, said parts arranged to electrically contact with the conductor.
6. A connector according to any of the preceding claims **characterised in that** the conductor is contacted with contact means by the operation of at least one engagement means to bring the conductor and contact means into electrical contact.

7. A connector according to claim 1 **characterised in that** the switch connection is biased towards the closed position.
8. A connector according to any preceding claim **characterised in that** the switch connector between the first and second contact means is an over centre mechanism.
9. A connector according to claim 8, wherein the switch can be moved gradually from the open position to an intermediate position whereupon the switch moves the remaining distance to the closed contact position by a snap action.
10. A connector according to claim 9 **characterised in that** the switch is moved to the intermediate position prior to the snap action by the turning of a screw which is connected with the body of the connector.
11. A connector according to claim 9 **characterised in that** the snap action is created by the provision of a resilient member held in a tensioned condition and which, when the switch reaches the intermediate position moves towards a relaxed position and moves the switch with a snap action to make the connection between the first and second contact means.
12. A connector according to the any of the preceding claims **characterised in that** following the movement of the switch connection to the closed, connecting position, the same is retained in that position.
13. A method of forming an electronic connection between at least a first, live, conductor (34) to a second conductor (36), said second conductor connected to a further conductor and/or independently controllable electrical components or facilities downstream of the connection by which a load can be generated if in a switched on condition when electrical connection is made between the conductors by the connector, said conductor body (2,24) formed of insulating material (4) and including at least one electrical contact means (6,8) for each of the conductors comprising the steps of:
 - gripping each of the live conductors by insulating material surrounding the cores thereof;
 - placing each of the conductors in position in the connector body;
 - moving the contact means (6,8) onto respective conductors (34,36) to make electrical contact with the same and **characterised in that** the contact means are electrically separated by a switch (16) in an open position and, when the contact means (6,8) are in connection with the respective conductors, the switch is moved to the closed position to electrically connect the

contact means and hence conductors by removing an insert which is initially provided to maintain the switch in an open condition and removal of the insert causes the switch to move automatically to a closed contact position.

14. A method according to claim 13 **characterised in that** the switch connector is biased towards the closed position.

15. A method according to claim 13 **characterised in that** the switch connector is mechanically moved to an intermediate position from which the switch connector automatically moves to the closed position.

Patentansprüche

1. Ein elektrischer Verbinder zum Anschluss eines wenigstens ersten spannungsführenden Leiters (34) an einen zweiten Leiter (36), wobei der besagte elektrische Verbinder einen Körper (4, 24) aus Isoliermaterial bestehend (4) aufweist, der ein erstes Kontaktmittel (6) zum elektrischen Anschluss an den ersten Leiter enthält und ein mit Abstand angeordnetes Kontaktmittel (8) zum elektrischen Kontakt an den zweiten Leiter und einen Schalter (16), der aus einer offenen Stellung, in der kein elektrischer Kontakt zwischen den Leitern zustande kommt und einer geschlossenen Stellung, in der elektrischer Kontakt zwischen dem besagten ersten und zweiten Kontaktmitteln (6, 8) hergestellt wird, um so eine elektrische Verbindung zwischen den besagten Leitern herzustellen, und **dadurch gekennzeichnet ist, dass** der elektrische Verbinder einen Einsatz (100) aufweist, besagter Einsatz in einer Position bereitgestellt wird, um den Schalter in einer offenen, nicht angeschlossenen Stellung zu halten, wobei besagter Einsatz entfernbar ist, so dass der Schalter sich automatisch in eine geschlossene Kontaktstellung bewegen kann.

2. Ein elektrischer Verbinder nach Anspruch 1, **dadurch gekennzeichnet, dass** das erste und zweite Kontaktmittel Einsätze sind, die aus stromdurchlässigem Material bestehen, die so in dem aus Isoliermaterial bestehenden elektrischen Verbinderkörper eingesetzt und positioniert werden, dass der elektrische Verbinder zum Anschluss spannungsführender Leiter verwendet werden kann, wobei die Person, die den elektrischen Verbinder benutzt, den Isoliermaterialkörper handhabt.

3. Ein elektrischer Verbinder nach Anspruch 1, **dadurch gekennzeichnet, dass** das erste und zweite Kontaktmittel einheitliche Körper sind und jedes Kontaktmittel an einen Leiter geklemmt ist.

4. Ein elektrischer Verbinder nach Anspruch 3, **dadurch gekennzeichnet, dass** das Kontaktmittel ein Mittel zum Durchstoßen des Isoliermaterials an den Leitern aufweist, um eine elektrische Verbindung mit der Ader des Leiters zu erzeugen.

5. Ein elektrischer Verbinder nach Anspruch 1, **dadurch gekennzeichnet, dass** jedes Kontaktmittel wenigstens aus zwei Teilen besteht, wobei besagte Teile angeordnet sind, in elektrischem Kontakt mit dem Leiter zu stehen.

6. Ein elektrischer Verbinder nach einem beliebigen der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** der Leiter mit dem Kontaktmittel in Kontakt steht, indem wenigstens ein Eingriffsmittel betrieben wird, um einen elektrischen Kontakt zwischen dem Leiter und Kontaktmittel herzustellen.

7. Ein elektrischer Verbinder nach Anspruch 1, **dadurch gekennzeichnet, dass** die Schalterverbindung auf eine geschlossene Stellung vorgespannt ist.

8. Ein elektrischer Verbinder nach einem beliebigen der vorherigen Ansprüche, **dadurch gekennzeichnet, dass** der Schalteranschluss zwischen dem ersten und zweiten Kontaktmittel ein Kniehebel ist.

9. Ein elektrischer Verbinder nach Anspruch 8, **dadurch gekennzeichnet, dass** der Schalter steigend aus einer offenen Stellung in eine Zwischenstellung bewegt werden kann, worauf der Schalter die verbleibende Entfernung in eine geschlossene Kontaktstellung durch einen Schnappvorgang durchführt.

10. Ein elektrischer Verbinder nach Anspruch 9, **dadurch gekennzeichnet, dass** der Schalter in der Zwischenstellung vor dem Schnappvorgang bewegt wird, indem eine Schraube gedreht wird, die mit dem Körper des elektrischen Verbinders verbunden ist.

11. Ein elektrischer Verbinder nach Anspruch 9, **dadurch gekennzeichnet, dass** der Schnappvorgang durch die Bereitstellung eines federnden Gliedes, das in einem gespannten Zustand gehalten wird, erzeugt wird und welches, wenn der Schalter die Zwischenstellung erreicht, sich in Richtung einer entspannten Stellung bewegt und den Schalter mit einem Schnappvorgang bewegt, um den Anschluss zwischen dem ersten und zweiten Kontaktmittel herzustellen.

12. Ein elektrischer Verbinder nach einem beliebigen der vorherigen Ansprüche **dadurch gekennzeichnet, dass** nach Bewegung der Schalterverbindung in die geschlossene Anschlussstellung, dieselbe die in dieser Stellung gehalten wird.

13. Eine Methode zur Bildung einer elektronischen Verbindung zwischen wenigstens einem ersten spannungsführenden Leiter (34) mit einem zweiten Leiter (36), besagter Leiter mit einem weiteren Leiter und/oder unabhängig zu steuernden elektrischen Komponenten verbunden ist oder Einrichtungen, die dem Anschluss nachgeordnet sind, durch den eine Last erzeugt werden kann, wenn in einem angeschalteten Zustand, wenn elektrischer Anschluss zwischen den Leitern durch den elektrischen Verbinder hergestellt wird, besagter gebildeter Leiterkörper (2, 24) aus Isoliermaterial (4) gebildet ist und wenigstens ein elektrisches Kontaktmittel (6, 8) für jeden der Leiter aufweist, die aus folgenden Schritten besteht:

jeden der spannungsführenden Leiter greifen, indem Isoliermaterial die Adern derselben umgibt;
jeden der Leiter in Stellung im Verbinderkörper positionieren;
das Kontaktmittel (6,8) auf entsprechende Leiter (34, 36) bewegen, um elektrischen Kontakt mit denselben herzustellen, **dadurch gekennzeichnet, dass** die Kontaktmittel durch einen Schalter (16) elektrisch in einer offenen Stellung getrennt sind und wenn die Kontaktmittel (6, 8) in Kontakt mit den entsprechenden Leitern stehen, der Schalter in eine geschlossene Stellung bewegt wird, um die Kontaktmittel und somit die Leiter elektrisch zu verbinden, indem ein Einsatz entfernt wird, der zu Anfang bereitgestellt wird, um den Schalter in einem offen Zustand zu halten und die Entfernung die automatische Bewegung in einen geschlossene Kontaktstellung verursacht.

14. Eine Methode nach Anspruch 13, **dadurch gekennzeichnet, dass** der Schalteranschluss in eine geschlossene Stellung vorgespannt ist.
15. Eine Methode nach Anspruch 13, **dadurch gekennzeichnet, dass** der Schalteranschluss mechanisch in eine Zwischenstellung bewegt wird, aus der der Schalteranschluss automatisch in eine geschlossene Stellung bewegt wird.

Revendications

1. Connecteur pour la connexion électrique d'au moins un premier conducteur (34) sous tension à un deuxième conducteur (36), ledit connecteur comportant un corps (4 ; 24) en matière isolante (4) abritant un premier moyen de contact (6) afin de mettre électriquement en contact le premier conducteur et un deuxième moyen de contact (8) espacé d'une certaine distance afin de mettre électriquement en contact le deuxième conducteur et un interrupteur (16)

lequel est apte à être déplacé entre une position ouverte dans laquelle aucun contact électrique n'est établi entre les conducteurs, et une position fermée, dans laquelle le contact électrique est établi entre lesdits premier et deuxième moyens de contact (6 ; 8) de sorte à procurer la connexion électrique entre lesdits conducteurs et **caractérisé en ce que** le connecteur inclut un insert (100), ledit insert étant monté dans une position lui permettant de maintenir l'interrupteur dans une position ouverte non connectée, ledit insert étant amovible afin de permettre à l'interrupteur de se déplacer automatiquement vers une position de contact fermée.

2. Connecteur selon la revendication 1, **caractérisé en ce que** les premier et deuxième moyens de contact sont des inserts en matériau électriquement conducteur, lesquels sont introduits et positionnés dans le corps de connecteur en matière isolante de sorte que le connecteur puisse être utilisé pour connecter des conducteurs sous tension, alors que la personne utilisant le connecteur manipule le corps en matière isolante.
3. Connecteur selon la revendication 1, **caractérisé en ce que** les premier et deuxième moyens de contact sont des éléments unitaires et chaque moyen de contact est serré sur un conducteur.
4. Connecteur selon la revendication 3, **caractérisé en ce que** les moyens de contact comprennent un moyen permettant de percer la matière isolante sur les conducteurs, afin de créer une connexion électrique avec l'âme du conducteur.
5. Connecteur selon la revendication 1, **caractérisé en ce que** chaque moyen de contact comporte au moins deux parties, lesdites parties étant agencées de manière à se mettre électriquement en contact avec le conducteur.
6. Connecteur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le conducteur est mis en contact avec les moyens de contact suite à l'actionnement d'au moins un moyen d'engagement destiné à amener en contact électrique le conducteur et les moyens de contact.
7. Connecteur selon la revendication 1, **caractérisé en ce que** la connexion d'interrupteur est poussée vers la position fermée.
8. Connecteur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le connecteur d'interrupteur entre les premier et deuxième moyens de contact est un mécanisme à détente brusque.

9. Connecteur selon la revendication 8, l'interrupteur pouvant être déplacé, progressivement à partir de la position ouverte vers une position intermédiaire après quoi l'interrupteur se déplace sur la distance restante jusqu'à la position Contact Fermé grâce à une action d'enclenchement rapide. 5
10. Connecteur selon la revendication 9, **caractérisé en ce que** l'interrupteur est déplacé vers la position intermédiaire avant l'action d'enclenchement rapide grâce à la rotation d'une vis qui est raccordée au corps du connecteur. 10
11. Connecteur selon la revendication 9, **caractérisé en ce que** l'action d'enclenchement rapide est obtenue grâce à la présence d'un élément élastique lequel est maintenu dans un état tendu et qui - lorsque l'interrupteur atteint la position intermédiaire - se déplace vers une position détendue et déplace l'interrupteur à l'aide d'une action d'enclenchement rapide afin d'établir la connexion entre les premier et deuxième moyens de contact. 15 20
12. Connecteur selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'à** la suite du mouvement de la connexion d'interrupteur vers la position fermée, de connexion, celle-ci est maintenue dans cette position. 25
13. Procédé permettant de former une connexion électronique entre au moins un premier conducteur (34) sous tension et un deuxième conducteur (36), ledit deuxième conducteur étant connecté à un conducteur supplémentaire et/ou à des organes ou des composants électriques pilotables de façon indépendante en aval de la connexion en vertu de laquelle une charge peut être générée si elle se trouve dans un état activé lorsque la connexion électrique est établie entre les conducteurs par le connecteur, ledit corps de conducteur (2, 24) étant réalisé en matière isolante (4) et comportant au moins un moyen de contact électrique (6, 8) pour chacun des conducteurs, le procédé comprenant les étapes consistant à : 30 35 40 45
- agripper chacun des conducteurs sous tension par la matière isolante qui entoure les âmes de ceux-ci ;
- placer chacun des conducteurs en position dans le corps de connecteur ; 50
- déplacer les moyens de contact (6, 8) sur les conducteurs respectifs (34, 36) afin d'établir un contact électrique avec ceux-ci, et **caractérisé en ce que** les moyens de contact sont séparés électriquement par un interrupteur (16) se trouvant en position ouverte et, lorsque les moyens de contact (6, 8) sont en connexion avec les conducteurs respectifs, l'interrupteur est déplacé vers la position fermée afin de connecter électriquement le moyen de contact, et par conséquent les conducteurs, suite à l'enlèvement d'un insert qui est initialement prévu pour maintenir l'interrupteur dans un état ouvert, alors que l'enlèvement de l'insert oblige l'interrupteur à se déplacer automatiquement jusqu'à une position de contact fermée. 55
14. Procédé, selon la revendication 13, **caractérisé en ce que** le connecteur d'interrupteur est poussé vers la position fermée.
15. Procédé, selon la revendication 13, **caractérisé en ce que** le connecteur d'interrupteur est déplacé de façon mécanique vers une position intermédiaire à partir de laquelle le connecteur d'interrupteur se déplace automatiquement pour se mettre dans la position fermée.

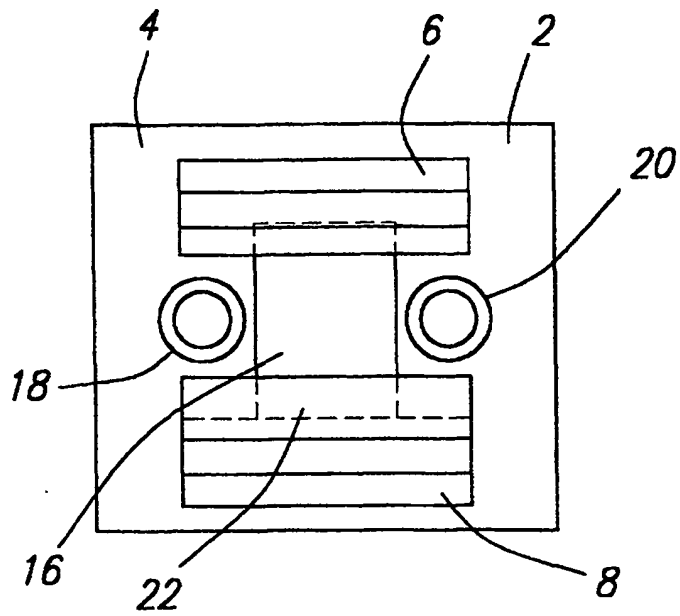


FIG. 1A

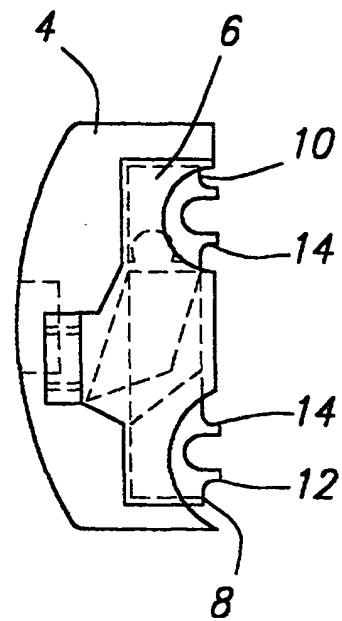


FIG. 1B

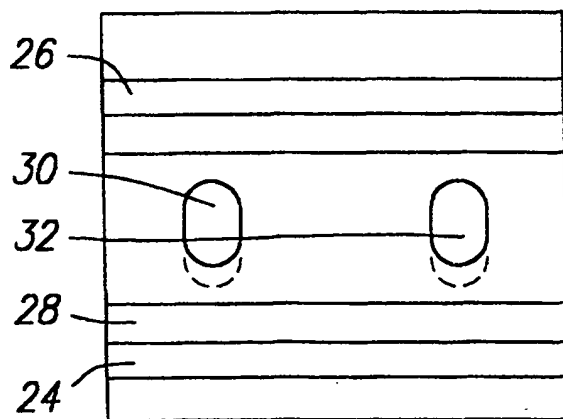


FIG. 2A

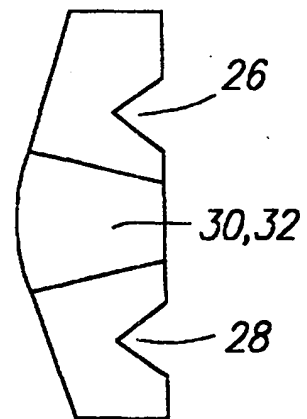


FIG. 2B

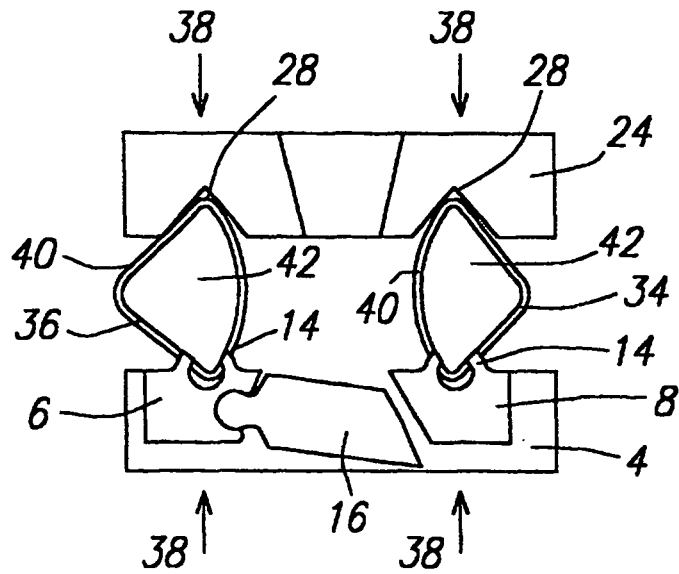


FIG. 3A

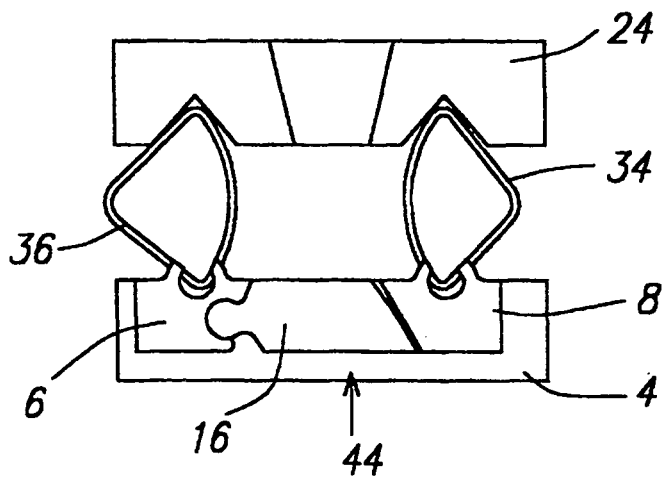


FIG. 3B

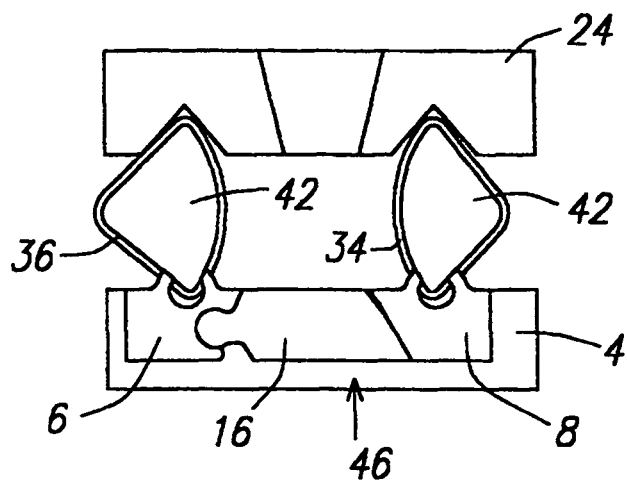
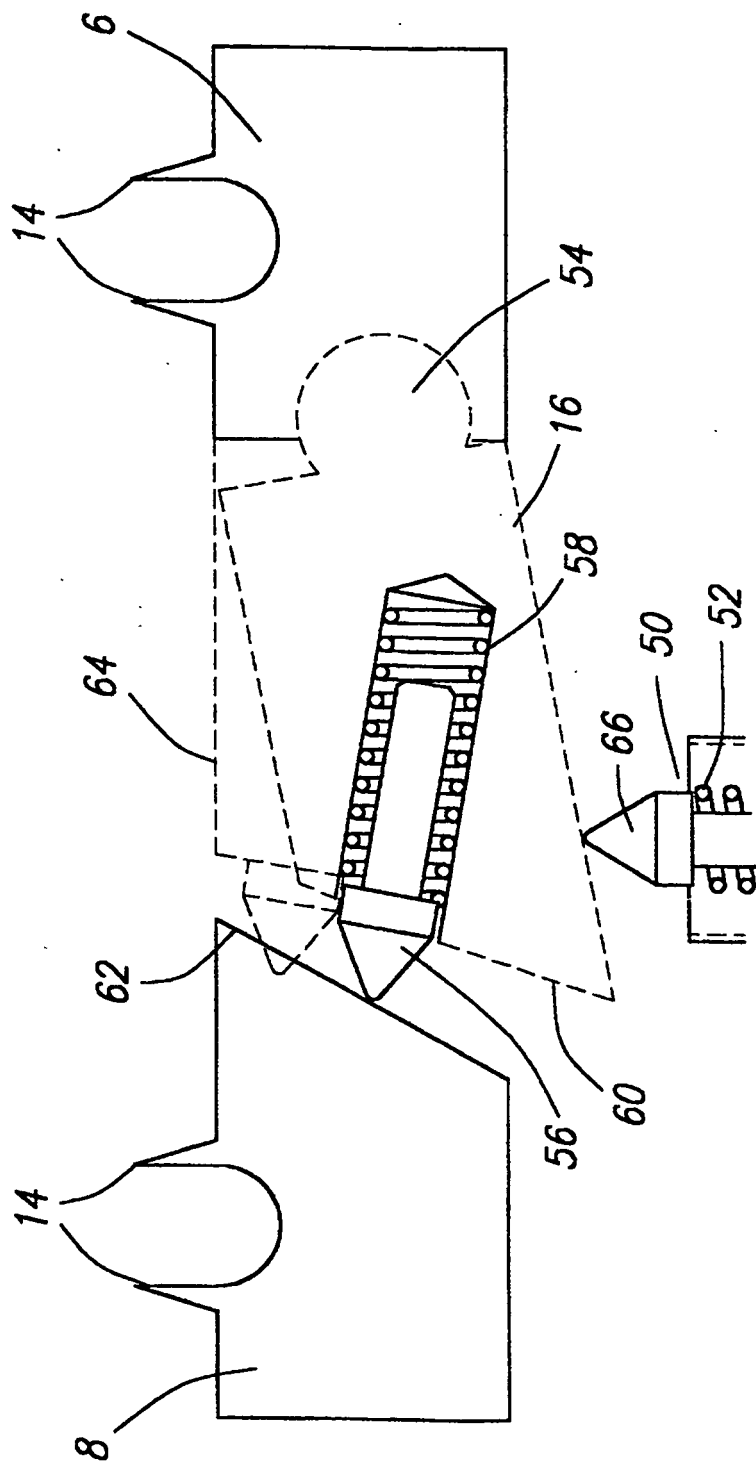


FIG. 3C

FIG. 4



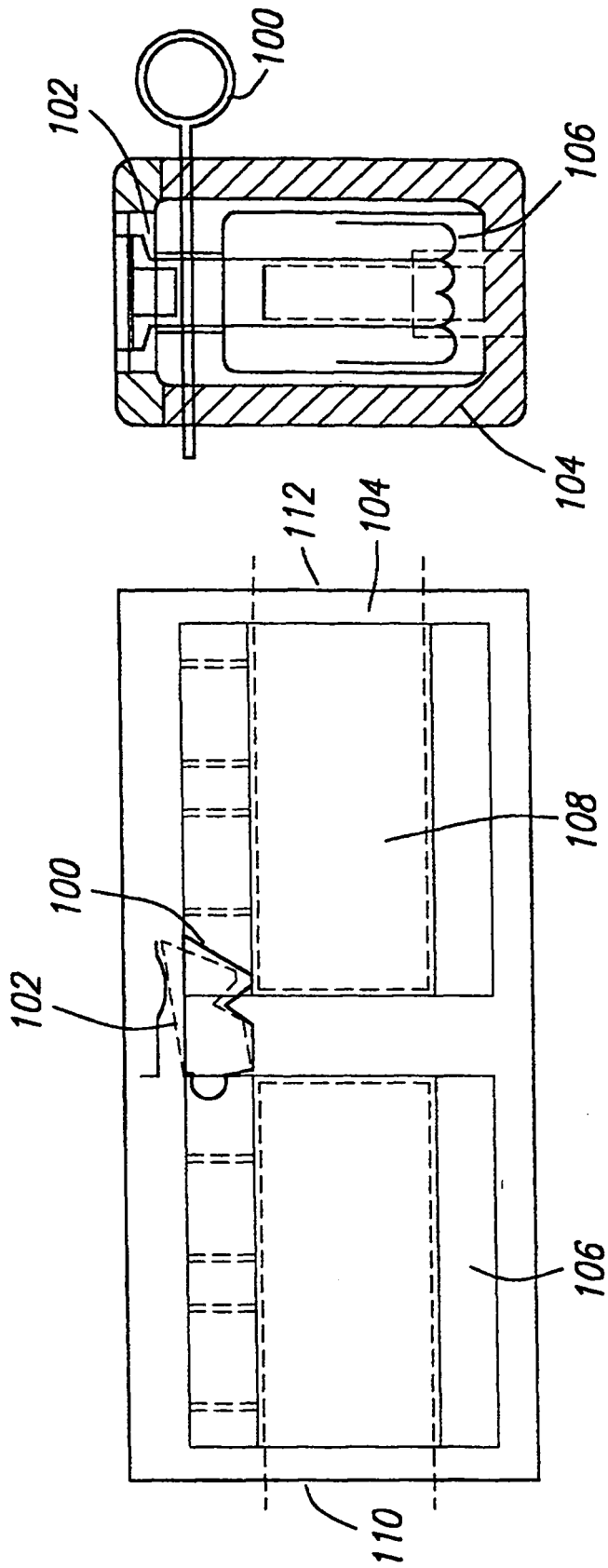


FIG. 5B

FIG. 5A

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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