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Levy

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[54] **ELECTRICAL CONNECTOR BLOCK**

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[73] Assignee: **Raychem Corporation**, Menlo Park, Calif.

[21] Appl. No.: **233,728**

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Related U.S. Patent Documents

Reissue of:

[64] Patent No.: **4,993,966**
Issued: **Feb. 19, 1991**
Appl. No.: **515,796**
Filed: **Apr. 27, 1990**

U.S. Applications:

[63] Continuation of Ser. No. 18,758, Feb. 17, 1993, abandoned.

[51] **Int. Cl.**[6] **H01R 4/24**

[52] **U.S. Cl.** **439/411**; 439/412; 439/604

[58] **Field of Search** 439/389–425, 439/912, 604

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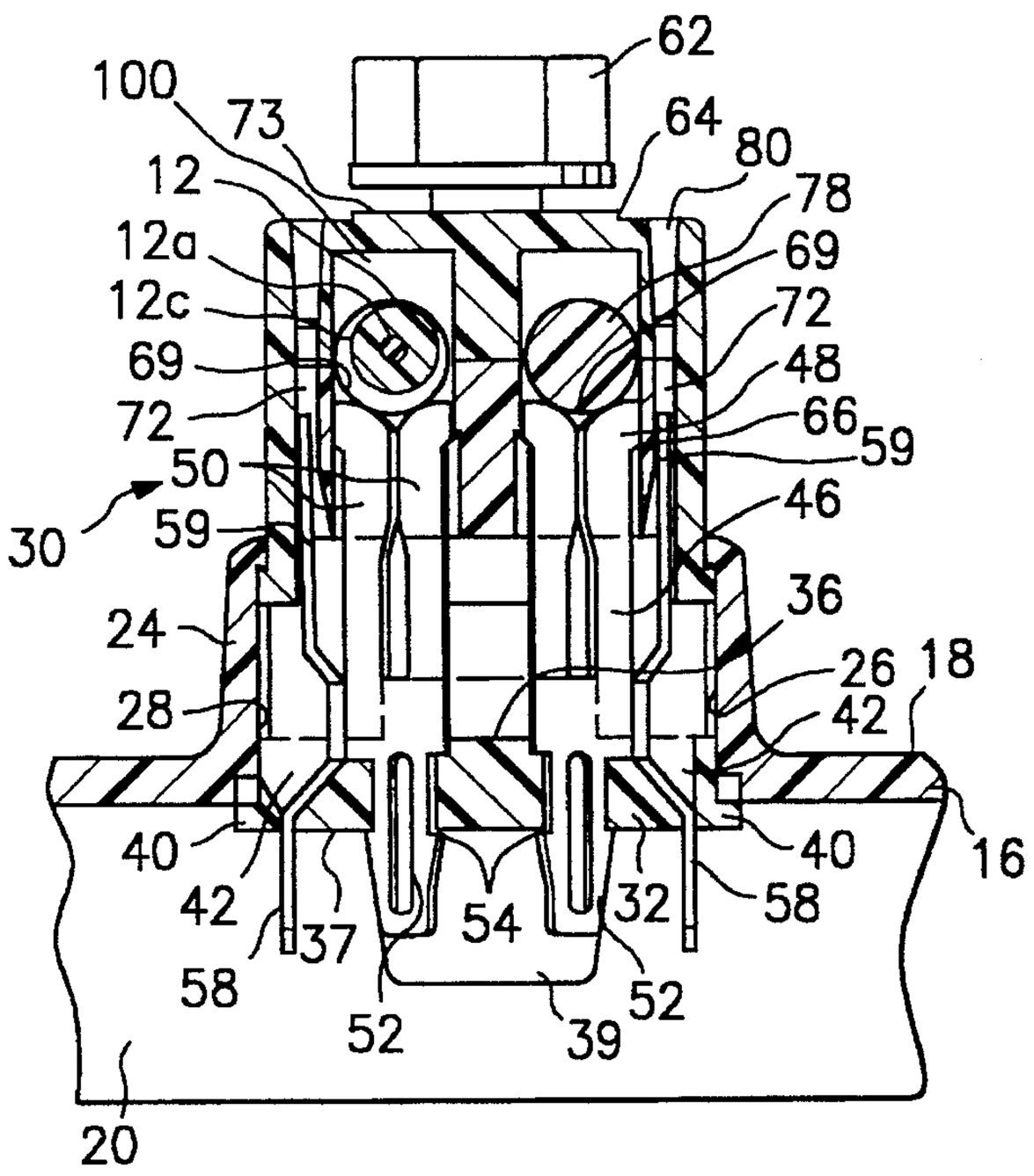
[57] **ABSTRACT**

A connector block for connecting drop wires to conductors of a multi-conductor cable is disclosed. The connector block includes a housing having plural apertures therethrough and individual terminal modules which are insertable into the housing. The terminal modules may be inserted into the housing in plural different orientations to permit insertion of the drop wire from different directions, Each individual terminal module establishes electrical connection between a drop wire pair and a pair of conductors of the multiconductor cable.

40 Claims, 2 Drawing Sheets



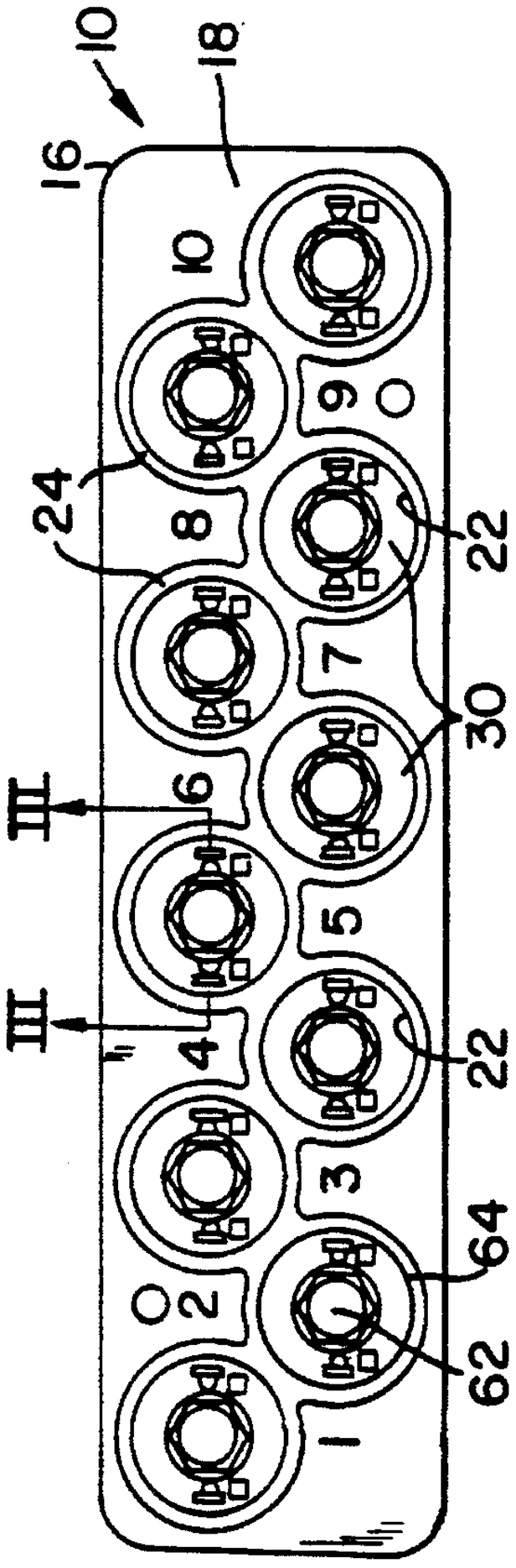

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FIG. 1

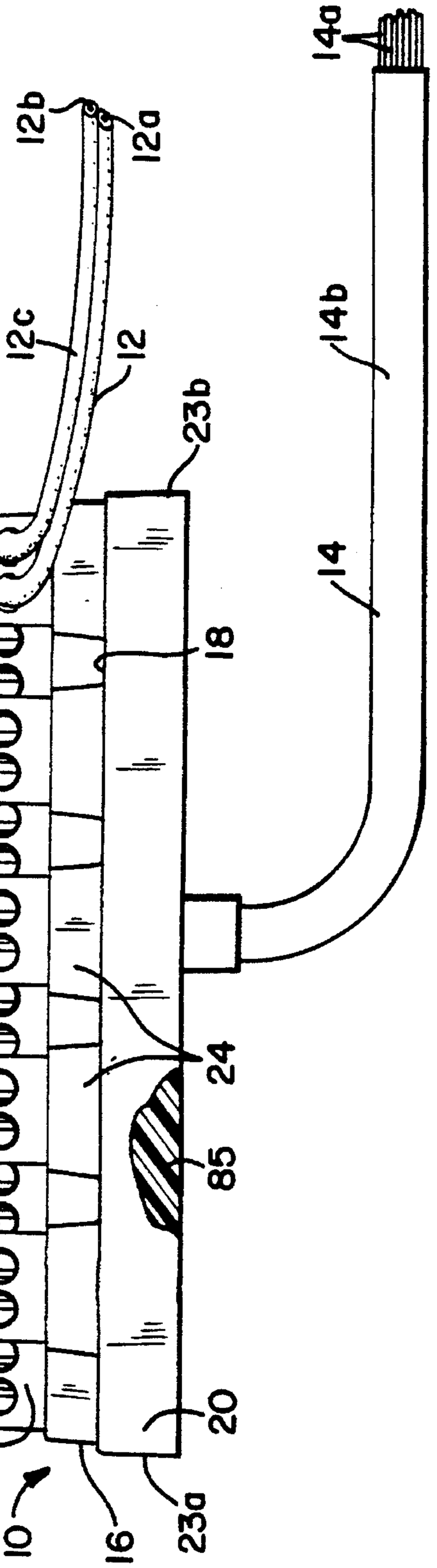
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FIG. 2

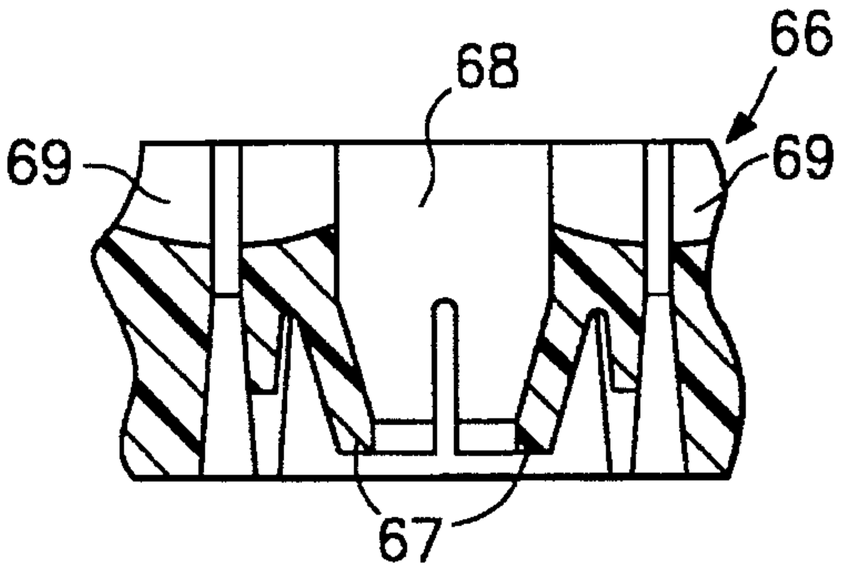
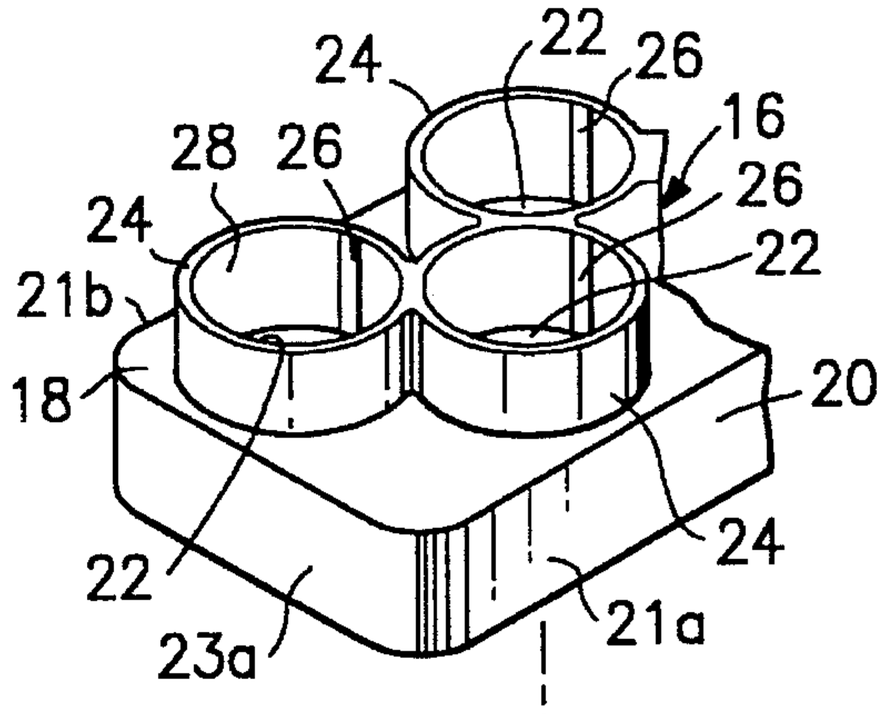


FIG. 5



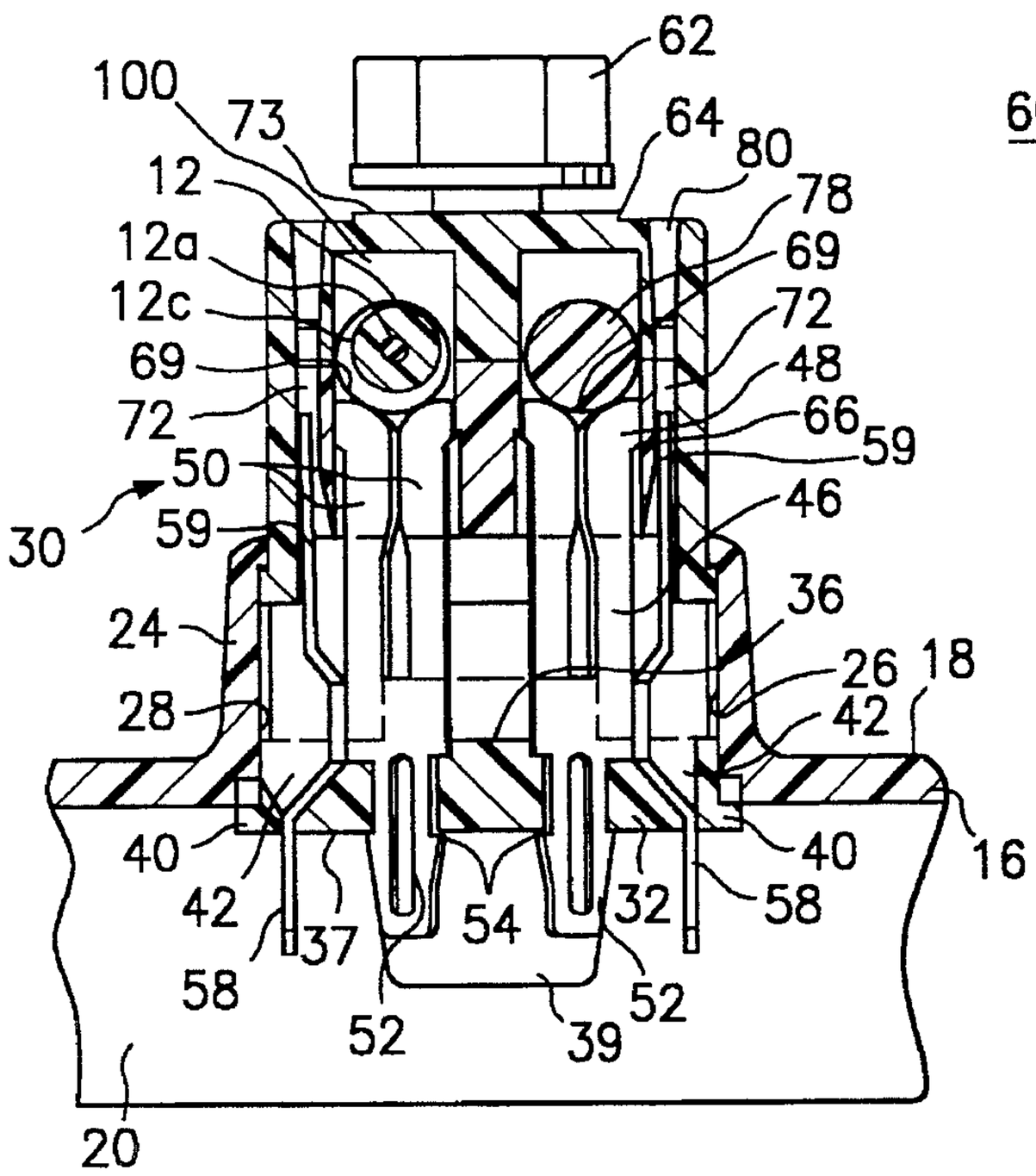


FIG. 3

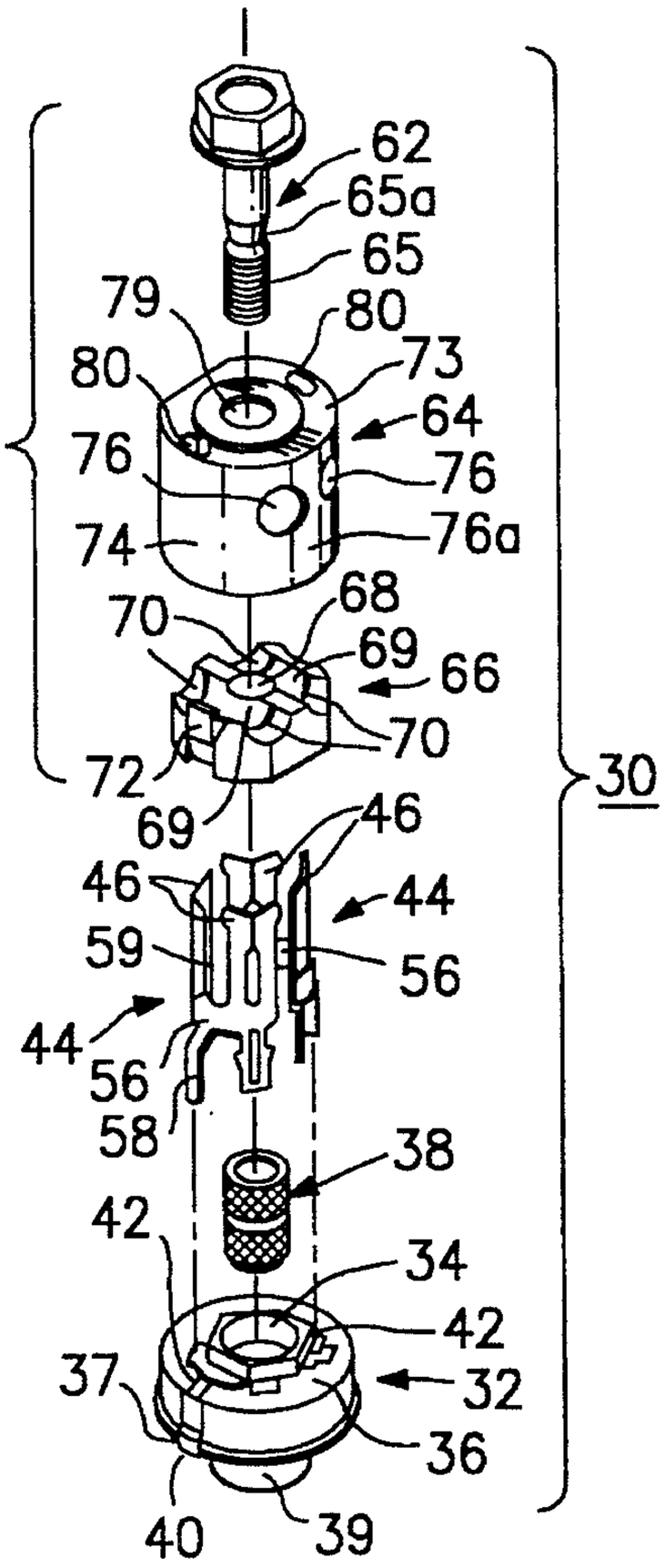


FIG. 4

ELECTRICAL CONNECTOR BLOCK

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This is a continuation of prior application Ser. No. 08/018,758, filed Feb. 17, 1993, now abandoned.

FIELD OF THE INVENTION

The present invention relates to an electrical connector block for terminating electrical conductors. More particularly, the present invention relates to an electrical connector block which connects conductors of a multiconductor telecommunications cable to drop wires feeding local telephone distribution.

BACKGROUND OF THE INVENTION

In order to provide telephone service for local distribution (such as an individual home), it is necessary to tap into a multiconductor telecommunications cable which is typically run outdoors, either above or underground. The telephone industry currently employs connector blocks to establish such connection. Connector blocks of this type electrically terminate a group of conductors of the telecommunications cable fed thereto by a multiconductor stub cable. The conductors of the stub cable are electrically connected to drop wires which establish electrical service to the local distribution.

Examples of connector blocks currently being used in the telephone industry are shown in U.S. Pat. Nos. 4,449,777; 4,652,071; 4,826,449 and 4,846,721. Each of these patents describes a connector block including an elongate housing. The housing includes a plurality of electrical contacts fixed in the housing. Each contact connects a conductor of the stub cable to an individual drop wire. Individual caps or covers are supported over each contact, or pairs of contacts, to support the drop wires and to environmentally protect the connection thereto.

The devices of each of the above identified patents provide a given number of electrical contacts in fixed position in the housing. The drop wire must be inserted into the connector block in a given direction for every installation.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an electrical connector block which connects conductors of a multiconductor cable to electrical drop wires.

It is a further object of the present invention to provide an electrical connector block which employs a housing which accommodates individually insertable terminal modules which independently provide electrical connection between conductors of the multiconductor cable and drop wires.

It is a still further object of the present invention to provide an electrical connector block which permits insertion of the drop wire into the connector block from different directions.

In the efficient attainment of these and other objects, the present invention provides an electrical connector block for electrically connecting plural pain of conductors of a multiconductor cable to plural pain of drop wires. The connector block includes an elongate housing having a planar surface and plural apertures extending therethrough. A plurality of

identical electrical terminal modules are provided for individual insertion into each aperture of the connector block housing. Each terminal module includes means for electrically interconnecting one pair of conductors from the multiconductor cable to the drop wire pair.

As more particularly described by way of the preferred embodiment, the terminal module is an elongate member having opposed ends and a front wall portion therebetween. The front wall includes an opening therethrough to provide access for the drop wire which is inserted therein. The terminal module my be positioned in the housing in plural positions such that the location of the drop wire entry opening may be changed with respect to the terminal block housing. This permits the drop wire to be inserted into the terminal module from different directions.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of the electrical connector block of the present invention.

FIG. **2** is a side elevational showing of the connector block of FIG. **1** including a stub cable and a drop wire connected thereto.

FIG. **3** is a sectional showing of a portion of the connector block of FIG. **1**, taken along the lines III—III.

FIG. **4** is an exploded perspective view of a terminal module and a portion of a housing of the connector block of FIG. **1**.

FIG. **5** is an enlarged fragmented vertical section of an intermediate support member of the terminal module shown in FIGS. **3** and **4**.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. **1** and **2**, an electrical connector block **10** of the present invention is used to connect a drop wire **12** to a stub cable **14**. Connector block **10** is typically employed in the telephone industry to provide telephone service to local distribution, such as an individual customer's premises. Telephone service is supplied to the premises by drop wire **12**. As shown in the present embodiment, drop wire **12** is a two conductor cable, wherein each individual conductor **12**a and **12**b is electrically isolated, but supported in a common insulated jacket **12**c In use, one end of drop wire **12** is longitudinally slit to form a pair of side-by-side discrete insulated drop wires. Drop wires of this type are conveniently used in telephone applications, as telephone service is typically provided by two conductors, one designated tip, the other ring. The present invention may also be employed With discrete insulated single conductor cables. As used hereinthroughout the term drop wire may encompass the two conductor cable either as a pair or separately or a discrete insulated conductor.

In order to tap into an outdoor telecommunications cable (not shown), stub cable **14** is employed. Stub cable **14** includes a plurality of individually insulated conductors **14**a, surrounded by an outer plastic jacket **14**b. Connector block **10** of the present invention provides electrical connection between conductors **14**a of stub cable **14** and conductors **12**a and **126** of plural drop wires **12**.

Referring additionally to FIGS. **3** and **4**, connector block **10** may be further described. Connector block **10** includes an elongate housing **16** typically formed of molded plastic. Housing **16** is generally rectangular in shape, having an elongate planar surface is and a depending perimeterical

skirt **20** defined by longitudinal front and back walls **21**a and **21**b and transverse end walls **23**a and **23**b. Planar surface **18** includes a plurality of circular apertures **22** extending therethrough. Apertures **22** are positioned in two staggered longitudinally extending rows. In the present embodiment ten apertures are shown. However, it is contemplated that housing **16** may be formed in any desired length to have greater or fewer apertures therein so as to provide connection to any number of drop wires **12**. Housing **16** further includes an annular wall **24** cxtending upwardly from planar surface **18** and surrounding each circular aperture **22**. For simplicity of manufacturer, adjacent annular walls **24** may be in intimate contact, however, discrete walls my also be employed. A pair of diametrically opposed vertical slots **26** are included on an inner surface **28** of each annular wall **24**. Slots **26** extend upwardly from planar surface **18** and their function will be described in further detail hereinbelow.

As particularly shown in FIGS. **1** and **2**, housing **16** supports in each circular aperture **22**, an electrical terminal module **30**. Each terminal module **30** is supportable within any one of annular walls **24** surrounding circular apertures **12**. Terminal modules **30** are typically provided in like number to the number of circular apertures **22** provided in housing **16**. However, if a particular installation calls for a lesser of connections, certain ones of the circular apertures **22** may remain empty.

Referring additionally to FIGS. **3** and **4**, terminal module **30** of the present invention includes a base **32**, which is generally disk shaped, having an central opening **34** through an upper surface **36** thereof. Opening **34** accommodates an internally threaded bolt receiving member **38** which is press fitted in fixed position therein. A depending base extension portion **39**, which extends from an undersurface **37** of base **32**, helps support bolt receiving member **38**. Base **32** further includes a pair of diametrically opposed outwardly directed ribs **40** adjacent undersurface **37** thereof. Ribs **40** are adapted to fit within slots **26** of housing **16** to support and align base **32** therein, as will be described in further detail hereinbelow.

Base **32** further includes a pair of segmented slotted openings **42** positioned about opening **34**. Segmented slotted openings **42** extend from upper surface **36** to undersurface **37**. Supported in segmented slotted openings **42** of base **32** are a pair of identical electrical contact elements **44**, which establish electrical connection between drop wire **12** and the conductors of stub cable **14** (FIG. **2**).

Contact elements **44** are formed of a suitable metal, preferably copper, which exhibits desirable electrical and mechanical properties. Each of contact elements **44** includes a pair of drop wire engagement elements **46**. Referring more specifically to FIG. **3**, each of drop wire engagement elements **46** includes an upper insulation displacement portion **48**, formed by a pair of opposed beams **50**. Upper insulation displacement portion **48** functions in a conventional manner, to sever the jacket **12**c of drop wire **12** and make electrical engagement with conductor **12**a upon insertion therein. A lower portion **52** of drop wire engagement element **46** extends through segmented slotted opening **42** of base **32** to secure contact element **44** in base **32**. Lower portion **52** includes outwardly directed shoulders **54**, preventing withdrawal of contact element **44** from base **32**. Drop wire engagement elements **46** of contact elements **44** are positioned at angular disposition with respect to one another. This angular orientation permits adjacent contact elements **44** to be positioned in close proximity to one another.

Each of drop wire engagement elements **46** of contact element **44** is supported to one another by horizontal bridge

portion **56**. Bridge portion **56** includes a downwardly extending lower terminal **58** positioned between adjacent lower portions **52**. Lower terminal **58** extends through segmented slotted opening **42** below undersurface **37** or base **32**. Lower terminal **58** electrically terminates conductors **14**a of stub cable **14** (FIG. **2**). Conductors **14**a may be wire-wrapped around lower terminal **58** in a conventional manner.

Bridge portion **56** also includes tn upwardly directed probe element **59**, extending oppositely from lower terminal **58** and positioned between spaced-apart insulation displacement portions **48**. Probe clement **59** is positioned so that an external probe (not shown) may be engaged therewith for testing purposes as will be described in further detail hereinbelow.

Terminal module **30** further includes a closure subassembly **60**, supported above contact elements **64**. Closure subassembly **60** includes a bolt **62**, a cap **64**, and an intermediate support member **66**.

Bolt **62** is a metallic member having a stem **65** threaded at its lower end. Bolt **65** is adapted for screw accommodation in bolt receiving member **38** supported in base **32**.

Intermediate support member **66** is a plastic element having a central vertical aperture **68** extending therethrough for passage of stem **65** or bolt **62**. Intermediate support member **66** includes s pair or side-by-side wire accommodating troughs **69**, which as shown in FIG. **3**, provide a lower nest for drop wire **12**. Intermediate support member **66** includes slotted passages **70** therethrough which permit passage of upper insulation displacement portions **48** or contact elements **44**. Slotted passages **70** are disposed within trough **69** so that upper insulation displacement portions **48** pass through trough **69** and into engagement with drop wire **12** supported thereby. Intermediate support member **66** further include a pair or opposed outboard vertical recesses **72**, each of which permit passage of probe element **59** therethrough.

Cap **64** is an inverted cup-shaped member formed of a suitable plastic. Cap **64** includes an upper planar surface **73** and a depending substantially cylindrical wall **74**. Cylindrical wall **74** includes a pair of side-by-side openings **76** along a front portion **76**a thereof which permit individual insertion of drop wires **12** thereinto. Intermediate support member **66** is supported within the cylindrical wall **74** of cap **64**. Opening **76** are aligned with wire accommodating troughs **69**, which in combination, define a drop wire accommodating region **78**.

Upper surface **73** of cap **64** includes a central bolt hole **79**, which permits passage of the stem **65** of bolt **62** therethrough. Both cap **64** and intermediate support member **66** are supported in fixed position with respect to bolt **62** by employing locking fingers **67** (FIG. **5**) within the central vertical aperture **68** of intermediate support member **66** which engage an undercut **65**a on bolt **62**. Thus, closure sub-assembly **60** is movable with respect to base **32** and contacts **64** supported therein, upon screw engagement of bolt **62** with bolt receiving member **58**. Cap **64** further include a pair of diametrically opposed probe channels **80**, which permit access to probe elements **59** extending through outboard recesses **72** of intermediate support member **66**.

Connector block **10** of the present invention is used in the following manner: Base **32**, including bolt receiving member **38** press fitted therein, supports contact elements **44** in fixed orientation. In a separate operation, closure sub-assembly **60** is assembled. Bolt **62** is passed through bolt hole **79** of cap **64** and central vertical aperture **68** of intermediate

support member **66**. The locking fingers **67** (FIG. **5**) of intermediate support member **66** captively engage undercut **65**a of bolt **62** to provide fixed engagement with bolt **62**. Drop wire support region **78** defined between intermediate support member **66** and cap **64** may now be filled with a sealing gel **[**(not shown)**]** *100* (*FIG. 3*) introduced thereinto to environmentally protect the connection of contact element **44** to drop wires **12**. Closure sub-assembly **60** is then attached to base **32** by partially screwing bolt **62** into bolt receiving member **38** in base **32**. Terminal module **30** then may be inserted into housing **16** from below so that terminal module **30** seats within circular apertures **22**. Ribs **40** of base **32** slide into slots **26** of annular wall **24** to align and support terminal module **30** to housing **16**.

One advantage or the connector block **10** of the present invention is that terminal module **30** may be inserted in housing **16** in more than one orientation. For example, as shown in FIG. **4**, ribs **40** of base **32** are diametrically opposed from one another, as are slots **26** of annular wall **24**. Thus, terminal module **30** may be inserted in one of two positions. A first position is defined with openings **76** of cap **64** facing a rust direction adjacent longitudinal wall **21**a of housing **16**. A second position is defined where openings **76** of cap **64** face a second direction 180° opposite the first, adjacent longitudinal wall **21**b of housing **16**. This permits drop Wires **12** to be inserted from two different directions. In fact, it is contemplated that by various arrangements of ribs **40** and slots **26** the position of terminal module **30** in housing **16** may be infinitely varied. The variable positioning of terminal module **30** in housing **16** is a benefit to the installer as in typical installations, drop wires **12** extending from local distribution may be fed to connector block **10** from several different directions. The arrangement of terminal module **30** with respect to housing **16**, eliminates the installer having to loop drop wire **12** either over or under the connector block **10**.

Once the appropriate number of terminal modules **30** are supported in housing **16**, conductors **144** of stub cable **14** (FIG. **2**) may be connected thereto. Again, this step is typically performed in the factory where each individual conductor **144** is wire-wrapped in conventional fashion to lower terminal **58** of contact element **44**. This wire-wrapping technique is well-known in the electrical connection art, and my be accomplished by hand or automatic tooling.

After conductors **14**a of stub cable **14** are connected to contact elements **44**, the rear of the housing **16** is filled with a self-hardening insulating medium or potting compound **85**. This potting compound **85** serves two purposes. First, it electrically isolates and seals each of the individual connections of conductors **14**a to lower terminals **58** and second, serves to permanently secure terminal modules **30** in housing **16**.

Connection of drop wires **12** my now be accomplished by an installer in the field. Each individually inserted conductor **12**a and **12**b of drop wire **12** is inserted into drop wire accommodating region **78** between cap **64** and intermediate support member **66** of terminal module **30** through openings **76**. The ends of drop wires **12** are supported from below by wire accommodating troughs **69** of intermediate support member **66**, and from above by the upper surface **73** of cap **64**. Excess gel within the drop wire accommodating region **78** is expelled back through openings **76**. The screw tightening of bolt **62** to base **32** causes downward movement of closure sub-assembly **60**, forcing the conductors **12**a and **12**b of drop wire **12** into insulation displacement connection with the upper insulation displacing portions **48** or contact elements **44**. As is known in the electrical connection art, the

upper insulation displacing portions **48** cut through insulation **12**c to make electrical engagement with each of conductors **12**a and **12**b. Thus, electrical connection is established between drop wire **12** and conductors **14**a of cable **14**. As each of contact elements **44** includes a pair of spaced-apart integrally formed insulation displacing drop wire engagent elements **46**, redundent electrical engagent is established between each drop wire **12** and contact element **44**.

Disconnection of drop wire **12** from terminal module **30** may also be achieved by the present invention. Bolt **62** may be unscrewed from base **32**, thereby raising closure sub-assembly **60** from base **32**. This action pulls drop wires **12** off of upper insulation displacing portions **48** of contact elements **44**, thus the disconnected drop wire may be removed, and another connection made.

Various changes to the foregoing described and shown structures would now be evident to those skilled in the art, Accordingly, the particularly disclosed scope of the invention is set forth in the following claims.

I claim:

1. An electrical connector block for electrically connecting plural pairs of conductors of a multiconductor cable to plural pairs of drop wires comprising:

an elongate terminal block housing having a planar surface and plural discrete apertures extending therethrough; and

a plurality of identical electrical terminal modules, one module of said plurality insertably mounted in each aperture of said terminal block housing, each terminal module including means for electrically interconnecting one pair of said plural **[**paris**]** *pairs* of conductors of said multiconductor cable to one pair of said plural pain of drop wires.

2. An electrical connector block of claim **1** wherein each said electrical terminal module includes:

an electrically insulative body; and a pair of elongate electrical contacts supported in said body, said contacts including respective first connection end extents for electrical engagement with respective conductors of said multiconductor cable pair and second connection end extents for removable electrical engagement with respective drop wires of said drop wire pair;

wherein said electrically interconnecting means includes said pair of contacts.

3. An electrical connector block of claim **2** wherein said electrically insulative module body includes:

a base having an upper and a lower surface which supports said pair of contacts with said second connection end extents extending from said upper surface and said first connection end extents extending below said lower surface;

a cap secured to said base above said upper surface for movement toward and away from said base;

an intermediate member positioned between said cap and said base, said cap and said intermediate member defining a drop wire support region for supporting said drop wife pair adjacent raid second connection end extents of said pair of contacts; and

securement means for captively securing said intermediate member to said cap for movement therewith and for providing said movable securement of said cap to said base;

whereby movement of said cap toward said base establishes said electrical engagement of said respective

second connection end extents with said respective drop wires of said pair and movement of said cap away from said base removes said respective drop wires of said pair from electrical engagement with said respective second connection end extents.

4. An electrical connector block of claim **3** wherein said securement means includes an externally screw-threaded bolt supported by said cap and wherein said base includes an internally screw-threaded bolt support for screw-accommodation with said bolt.

5. An electrical connector block of claim **4** wherein said cap is cup-shaped, having a op wall and a depending side wall, said bolt passing through said top wall thereof.

6. An electrical connector block of claim **5** wherein intermediate member is captively supported within said cup-shaped cap by said bolt.

7. An electrical connector block of claim **6** wherein said cap side wall includes a pair of openings therethrough adjacent said intermediate member, said openings providing access to said drop wire support region.

8. An electrical connector block of claim **7** wherein said contact second end extends include insulation displacement elements.

9. An electrical connector block of claim **8** wherein said contacts include a probe arm extending through said intermediate member, said arm being externally electrically accessible.

10. An electrical connector block of claim **9** wherein said base, said cap and said intermediate member are generally cylindrical in shape and where said housing apertures are circular so as to accommodate said module.

11. A connector block assembly for electrically connecting a conductor of a multiconductor cable to a drop wire, said connector block comprising:

an elongate housing having opposed longitudinal walls and a planar surface extending therebetween, said housing including plural apertures through said planar surface; and

at least one connector module insertably supportable in one of said housing apertures;

said module including;

and elongate electrical contact having a first connection end for electrical engagement with said conductor of said multiconductor cable and an opposed second connection end for electrical engagement with said drop wire;

an elongate insulative body supporting said electrical contact, said body having an upper end adjacent said second connection end of said contact, a lower end and an elongate front wall portion extending therebetween; said front wall portion including a drop wire entry opening adjacent said upper end for insertable receipt of said drop wire and for providing drop wire access to said second connection end of said contact; and

positioning means for supporting said connector module in said housing aperture in plural different positions, each said position differing in the location of said drop wire entry opening with respect to the longitudinal walls of said housing.

12. A connector block assembly of claim **11** wherein said connector module is supportable in said housing aperture in a first position wherein said front wall portion is positioned adjacent one of said longitudinal walls of said housing whereby said drop wire is insertable into said drop wire entry opening in a first direction perpendicular to said one longitudinal side wall **13**.

13. A connector block assembly of claim **12** wherein said connector module is supportable in said housing aperture in a second position, wherein said front wall portion is positioned adjacent to the other of said longitudinal walls of said housing, whereby said drop wire is insertable into said drop wire entry opening in a said direction perpendicular to said other longitudinal side wall and opposite first direction.

14. A connector block of claims **12** or **13** wherein said connector module is generally cylindrical in shape and said housing aperture is circular being defined by an extending annular housing wall, and wherein said positioning means includes:

diametrically opposed keys on said connector module and said annular housing wall includes diametrically opposed key receiving slots, said key receiving slots adapted to receive said keys upon insertion of said connector module in said aperture in either said first or said second positions.

15. An electrical connector block, comprising:

(a) a housing arrangement defining an interior compartment for receipt of conductors of a multiconductor cable;

(b) first and second electrical contact members supported by said housing arrangement, each said contact member having a first contact disposed in said interior compartment and a second contact situated exteriorly of said housing arrangement; and

(c) a closure for enclosing said second contacts of said first and second electrical contact members, said closure having an interior compartment and defining first and second drop wire entry apertures in an exterior surface thereof and a drop wire support member interiorly in registry with said first and second apertures, said drop wire support member defining contact member passages therethrough enabling electrical engagement of said second contacts with drop wires disposed on said drop wire support member.

16. An electrical connector block of claim 15, further including a gel disposed in said closure interior compartment.

17. An electrical connector block of claim 15, wherein said closure defines a further aperture in an exterior surface thereof and further including a member disposed in said further aperture and operable for effecting electrical connection of drop wires disposed on said drop wire support member respectively to said second contacts of first and second electrical contact members.

18. An electrical connector block of claim 17, wherein said closure apertured exterior surfaces are mutually perpendicular.

19. An electrical connector block of claim 17, wherein said operable member comprises an exteriorly threaded member.

20. An electrical connector block of claim 15, wherein each of said first and second contact members includes a probe contact and wherein said closure defines respective exteriorly-accessible probe passages communicating with said probe contacts.

21. An electrical connector block of claim 20, wherein said probe passages are perpendicular to said contact support member.

22. An electrical connector block of claim 15, wherein said closure includes a contact enclosing housing bounding said closure interior compartment and wherein said contact enclosing housing and said dropwire support member are respective separately fabricated elements.

23. An electrical connector block of claim 22, wherein said contact enclosing housing defines a further aperture in

an exterior surface thereof, said connector block further including a member disposed in said further aperture and operable for displacing said contact enclosing housing relative to said housing arrangement for effecting electrical connection of drop wires disposed on said drop wire support member respectively to said second contacts of first and second electrical contact members.

24. An electrical connector block, comprising:

(a) a housing arrangement defining an interior compartment for receipt of conductors of a multiconductor cable;

(b) first and second electrical contact members supported by said housing arrangement, each said contact member having a first contact disposed in said interior compartment and a second contact situated exteriorly of said housing arrangement;

(c) a closure for enclosing said second contacts of said first and second electrical contact members, said closure having an interior compartment and defining first and second drop wire entry apertures in an exterior surface thereof; and

(d) a gel disposed in said closure interior compartment, said closure interior compartment defining interior surfaces therein extending from said second contacts of said first and second contact elements to said first and second drop wire entry apertures.

25. An electrical connector block of claim 24, wherein said interior surfaces extend also interiorly in said closure interior compartment of said second contacts of said first and second contact elements.

26. An electrical connector block of claim 24, wherein said closure defines a further aperture in an exterior surface thereof and further including a member disposed in said further aperture and operable for effecting electrical connection of drop wire respectively to said second contacts of first and second electrical contact members.

27. An electrical connector block of claim 26, wherein said closure apertured exterior surfaces are mutually perpendicular.

28. An electrical connector block of claim 26, wherein said operable member comprises an exteriorly threaded member.

29. An electrical connector block of claim 24, wherein each of said first and second contact members includes a probe contact and wherein said closure defines respective exteriorly-accessible probe passages communicating with said probe contacts.

30. An electrical connector block of claim 29, wherein said probe passages communicate with said interior surfaces.

31. An electrical connector block of claim 30, wherein said probe passages are perpendicular to said interior surfaces.

32. An electrical connector block of claim 24, wherein said closure includes a contact enclosing housing bounding said closure interior compartment and wherein said contact enclosing housing and said interior surfaces are respective separately fabricated.

33. An electrical connector block of claim 32, wherein said contact enclosing housing defines a further aperture in an exterior surface thereof, said connector block further including a member disposed in said further aperture and operable for displacing said contact enclosing housing relative to said housing arrangement for effecting electrical connection of drop wires respectively to said second contacts of first and second electrical contact members.

34. An electrical connector block of claim 24, wherein said second contacts of said first and second electrical contact members are insulation displacement contacts.

35. An electrical connector block, comprising:

(a) a housing arrangement defining an interior compartment for receipt of conductors of a multiconductor cable;

(b) first and second electrical contact members supported by said housing arrangement, each said contact member having a first contact disposed in said interior compartment and a second contact situated exteriorly of said housing arrangement, each of said first and second contact members including a probe contact;

(c) a closure for enclosing said second contacts of said first and second electrical contact members, said closure having an interior compartment and defining first and second drop wire entry apertures in an exterior surface thereof, said closure including cylindrical surfaces therein extending from said second contacts of said first and second contact members to said first and second drop wire entry apertures, said closure defining respective exteriorly-accessible probe passages communicating with said probe contacts, each of said probe passages communicating with said cylindrical surface for supporting said drop wires; and

(d) a gel disposed in said closure interior compartment.

36. In an electrical connector block having a housing arrangement defining an interior compartment for receipt of conductors of a multiconductor cable and first and second electrical contact members supported by said housing arrangement, each said contact member having a first contact disposed in said interior compartment and both a second contact and a probe contact situated exteriorly of said housing arrangement, the improvement comprising a closure for enclosing said second and probe contacts of said first and second electrical contact members, said closure having an interior compartment containing a gel and defining first and second drop wire entry apertures in a first exterior surface thereof and defining first and second probe entry apertures in a second exterior surface thereof, said closure further defining respective first and second interior surfaces extending from said first and second drop wire entry apertures to said second contacts of said first and second contact members and respective first and second probe passages extending from said first and second probe entry apertures to said first and second interior surfaces.

37. The invention claimed in claim 36 wherein said first and second interior surfaces extend also interiorly in said closure compartment of said second contacts of said first and second contact elements.

38. The invention claimed in claim 36, wherein said closure defines a further aperture in an exterior surface thereof and further including a member disposed in said further aperture and operable for effecting, electrical connection of drop wires inserted into said closure through said first and second drop wire entry openings to said second contacts of said first and second contact members.

39. The invention claimed in claim 38, wherein said operable member comprises an exteriorly threaded member.

40. The invention claimed in claim 39, wherein said closure includes a contact enclosing housing and a member defining said first and second interior cylindrical surfaces, said housing and said member defining said first and second interior cylindrical surfaces being separately fabricated.

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