

May 26, 1964

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ELECTRICAL CONNECTORS

3,134,844

Filed May 14, 1962

2 Sheets-Sheet 1

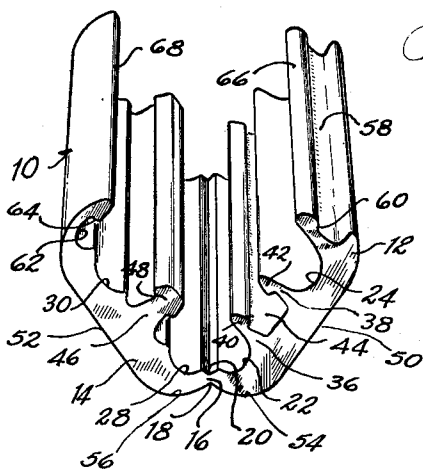


*Fig. 1*

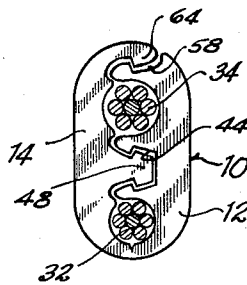


*Fig. 2*

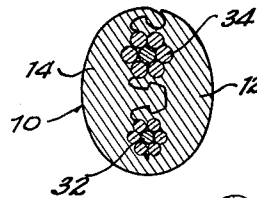


*Fig. 3*

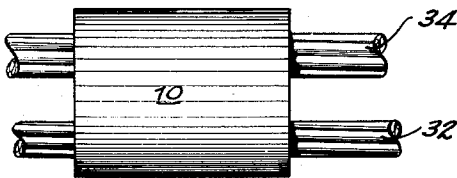


*Fig. 4*

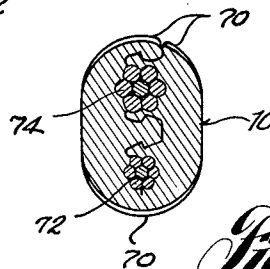


*Fig. 5*

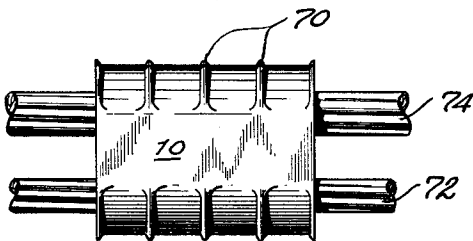


*Fig. 6*

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*Fig. 7*

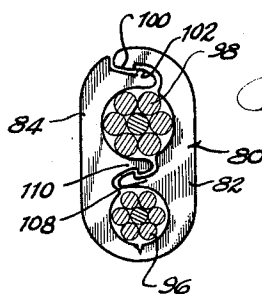
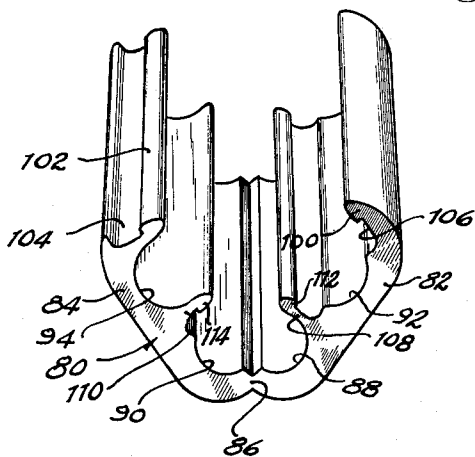


*Fig. 8*

*Fig. 10*

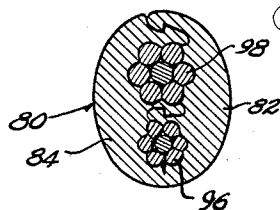
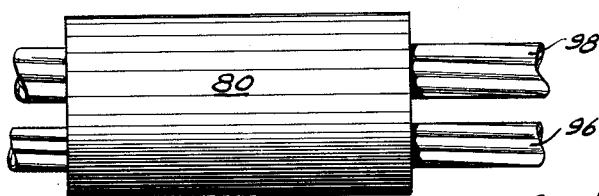


*Fig. 9*

*Fig. 11*

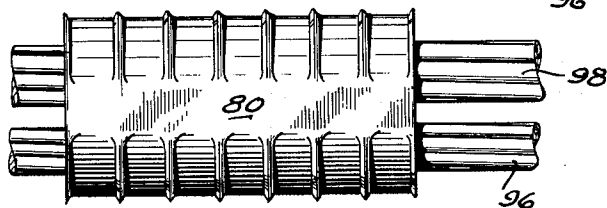
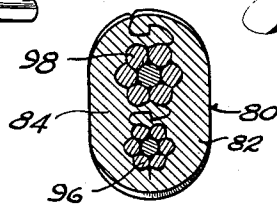


*Fig. 12*

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3,134,844

## ELECTRICAL CONNECTORS

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Filed May 14, 1962, Ser. No. 194,460

10 Claims. (Cl. 174-94)

The present invention relates in general to improvements in compression type connectors. It is more specifically concerned with the provision of extremely simplified one-piece connectors for attaching a secondary conductor or line, such as a tap-off or drop-line, to an installed main line in a conventional electrical transmission or distribution system.

Connectors falling within the scope of the invention are not limited in their end use to any specific type of electrical distribution system and are equally applicable in their installation on energized or de-energized power-supplying lines.

It is conventional practice, to avoid cutting or severing a main current-supplying or power line of an electrical transmission system, to connect branch or drop-lines to the main line at points intermediate the length thereof for supplying localized individual power needs. It is also conventional practice to provide interconnection between a power-supplying conductor or line exterior to a building with the wiring system within the building, as in the case of a service entrance connection therebetween. Connectors for such purposes are many and varied in form, are not broadly novel, and basically include metallic electrically-conductive body members equipped to engage with and clamp on the exterior surfaces of at least two conductors or lines, as by compressive deformation of the connector body members into electrically-conductive contact with the exposed surfaces of the conductors, or by mechanical affixation thereof by bolts and similar fastening devices.

It is an object of the present invention to provide an improved, simplified and economical one-piece connector for initial hand or finger attachment to one or more elongate members prior to final tool-applied compressive securement thereof.

Another object of the invention is to furnish a connector which lends itself to mass duplication and fabrication in indeterminate length, as by extrusion, from which individual short length connectors are obtainable, as by severance therefrom.

A further object is to furnish a one-piece connector incorporating a single entrance throat for receiving one or more and preferably at least two elongate line members and capable of initial hand or finger-applied pressure to close the entrance throat for preliminary securement of the connector prior to its final compressive attachment by conventional tools.

Other objects will present themselves on consideration of the following detailed description of connector devices selected for purposes of illustrating the invention, as depicted in the drawings, in which:

FIG. 1 represents an isometric view of one embodiment of connector falling within the scope and purview of the invention;

FIG. 2 represents an end elevational view of the connector of FIG. 1 following initial finger-tight application thereof on two elongate conductor lines or cables;

FIG. 3 represents a transverse cross-sectional elevational view, normal to the axes of the elongate line members within the connector of FIGS. 1 and 2, following compressive attachment of the connector on the line members as by means of conventional hand or power-operated hydraulic compressors provided with over-and-under conventional compression dies;

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FIG. 4 represents a side elevational view of the connector installation, as viewed from the right of FIG. 3;

FIG. 5 represents a transverse cross-sectional elevational view, normal to the axes of the elongate line members within the connector of FIGS. 1 and 2, following compressive attachment of the connector on the line members as by means of a conventional manually-operated double-toggle or plier-type compression tool;

FIG. 6 represents a side elevational view of the connector installation, as viewed from the right of FIG. 5;

FIG. 7 represents an isometric view of another embodiment of connector falling within the scope and purview of the invention;

FIG. 8 represents an end elevational view of the connector of FIG. 7 following initial finger-tight application thereof on two elongate conductor lines or cables;

FIG. 9 represents a transverse cross-sectional elevational view, normal to the axes of the elongate line members within the connector of FIGS. 7 and 8, following compressive attachment of the connector on the line members as by means of conventional hand or power-operated hydraulic compressors provided with over-and-under conventional compression dies;

FIG. 10 represents a side elevational view of the connector installation, as viewed from the right of FIG. 9;

FIG. 11 represents a transverse cross-sectional elevational view, normal to the axes of the elongate line members within the connector of FIGS. 7 and 8, following compressive attachment of the connector on the line members as by means of a conventional manually-operated double-toggle or plier-type compression tool; and

FIG. 12 represents a side elevational view of the connector installation, as viewed from the right of FIG. 11.

Each of the embodiments of the connector, selected for purposes of illustrating the invention, basically comprises an elongate unitary bifurcated body of ductile metal, aluminum and its alloys being an exceptionally suitable material, of initial uniform transverse cross-sectional configuration formed to provide angularly disposed leg portions for receiving one or more elongate members introduced axially and/or laterally between the angularly disposed leg portions of the unitary body. The connector devices thus broadly described have been economically mass fabricated by extrusion in indeterminate lengths of uniform transverse cross-section, with axially short lengths separated therefrom in accordance with any desired length of connector.

The angularly disposed leg portions of the connectors are unitarily and integrally connected at their intersecting extremities to form a one-piece bifurcated body member in each instance, the unitary connection therebetween preferably taking the form of a hinge reduced in cross-section from the remaining cross-section of each of the legs immediately adjacent the hinge to permit arcuate or oscillatory complete or partial closing of the angularly disposed or diverging leg portions about the reduced hinge section under the influence of finger or hand-applied pressure.

The oppositely disposed faces of the diverging or angularly disposed leg portions of the connectors are initially suitably configured to cooperatively provide therebetween axially parallel passages or grooves capable of preferably receiving at least two axially parallel spaced elongate line or conductor members, and inwardly extending flexural rib-like configurations are provided on the oppositely disposed facing surfaces of the leg portions for interlocking engagement with each other on initial and final compression of the connectors on the parallel separated elongate line members embraced between the leg portions thereof.

In more detail, and referring first to the connector illustrated in FIGS. 1 through 6, the bifurcated body 10 there-

of comprises two diverging leg portions 12 and 14 unitarily and integrally connected along their illustrated lower-most extremities by a reduced transverse cross-sectional thickness constituting an integral hinge connection 16. The reduced transverse cross-section of the body 10 at the hinge connection 16 is preferably accomplished by an axially extending inwardly depressed groove 18 on the exterior surface of the connector and an oppositely disposed outwardly directed axially extending notch 20 on the interior surface thereof.

The interior surface of the leg portion 12 is transversely configured over its axial length by two parallel spaced depressions or grooves 22 and 24 in substantial cooperative registry, on arcuate closing of the diverging legs 12 and 14 into the position illustrated in FIG. 2, with spaced parallel grooves or depressions 28 and 30, respectively, located on the interior facing surface of leg portion 14. The paired grooves or depressions 22—28 and 24—30 are selected in their transverse cross-sectional configuration to provide substantially right cylindrical axially parallel spaced passages through the body 10 of the connector, as illustrated in FIG. 2, of such selected size as to preferably receive and substantially encompass the exterior surfaces of at least two conductors or lines, such as a branch or drop-line cable 32 and a main line cable or conductor 34, laterally and/or axially introduced thereinto, the drop-line 32, usually termed the secondary conductor, being illustrated as somewhat smaller in cross-section than the main line 34, usually called the primary conductor, as is normally dictated in conventional practice in an electric power transmission system or installation requiring interconnections between the individual conductors thereof.

The interior surface of the leg portion 12 is also preferably configured to provide axially and inwardly extending spaced parallel ribs 36 and 38 the inwardly disposed hook-shaped or undercut flanges 40 and 42, respectively, providing therebetween a re-entrant groove 44 disposed between and axially parallel to the grooves 22 and 24.

The interior surface of the leg portion 14 is also preferably configured to provide an axial and inwardly extending rib 46, terminating in a transverse laterally flanged head portion 48, disposed between and axially parallel to the grooves 28 and 30. It will be observed, on reference to FIG. 2, that the rib 46 presents its laterally flanged head portion 48 within the re-entrant groove 44 through the reduced entrance thereto formed by the oppositely in-turned terminal ends or undercut flanges 40 and 42, the head or flange 48 being preferably selected in such maximum transverse width that flexural snap interference obtains in the entry of the head portion 48 of the rib 46 into the groove 44, with the flanged head portion 48 disposed below the inwardly turned terminal ends 40 and 42.

The surfaces of the leg portions 12 and 14 defining the exterior outline of the connector body 10 have been illustrated as preferably having substantially plane or flat areas 50 and 52 terminating in tangential arcuate surfaces 54 and 56, respectively, to provide the reversely curved contiguous exterior surface forming the exterior groove 18 adjacent the hinge section 16. The flat surface areas 50 and 52 may, if desired, be initially configured as concave or convex contiguous surfaces as an aid to controlling or influencing the plastic flow and redistribution of the connector body under subsequent compressive deformation of the same.

The normally free terminal ends of the leg portions 12 and 14 of the bifurcated body 10 of the connector, remote to the integral hinge 16, are also preferably initially configured to provide interference disposition therebetween on subsequent closing of the diverging legs. In this connection, it will be observed that the legs 12 and 14 have been turned inwardly over their axial lengths towards each other to provide flexural interference locking engagement therebetween under the influence of exteriorly applied pressure to arcuately translate the legs 12

and 14 from their position occupied in FIG. 1 to that of FIG. 2. To accomplish this flexural interference and interlocking interengagement, the upper marginal inwardly directed portion of leg 12 is provided with an outwardly or upwardly facing groove 58 terminating in an upstanding rib or shoulder 60, whereas the upper marginal inwardly directed portion of leg 14 is provided with a downwardly facing groove 62 terminating in a downwardly directed rib or shoulder 64, the ribs or shoulders 60 and 64 providing the aforesaid flexural interference on disposition of the ribs 60 and 64 within the grooves 62 and 58, respectively, as a result of lateral arcuate pivotal closing of the legs 12 and 14 (FIG. 2) about the hinge 16.

Manipulation of the connector of FIGS. 1 through 6 from open to the closed condition of FIG. 2 is capable of attainment by finger or hand-applied pressure and involves flexural snapping of the axially extending rib 64 over the curvilinearly inclined axially extending surface 66 of the axially extending upstanding rib 60. This snap assembly is aided by the curvilinear axially extending surface 68 defining the extreme outer terminal edge surface of the downwardly directed rib 64, as well as by the directionally inclined side surfaces of the laterally extending flange 48, defining the head of the intermediate rib 46, and the substantially similarly directionally inclined facing side surfaces of the terminal ends 40 and 42 forming the reduced entrance to the groove 44.

It will also be observed that the external or exterior outline of the body 10 of the connector, in the initial closed condition of FIG. 2, is illustrated as generally elliptical, although some other exterior outline may be initially selected, with regard to aiding plastic flow and redistribution of the material of the connector, or depending on some particularly desired final exterior configuration of a connector, following its compressive installation and affixation.

The contained angle between the diverging legs 12 and 14 of the elongated bifurcated body member 10 of the connector of FIGS. 1 through 6 is initially preferably selected to insure lateral clearance entrance therebetween and disposition of the interior grooved oppositely disposed surfaces of the legs in cooperative registry with exterior enclosing surface areas of the drop-line and main line members, or the conductors 32 and 34, over an equivalent axial length of the main conductor and drop-line member, finger or hand-applied pressure being all the force required to close the legs 12 and 14 on themselves and in loose engagement of the connector on one or both of the line members therewithin, thereby permitting use by an operator installing a connector of both hands in a final installation and manipulation of conventional pressure applying dies to subsequently compress and displace the connector into the condition illustrated in FIGS. 3 and 4. Therein it will be observed that the interior facing configured surfaces of the initially diverging legs 12 and 14 of the connector body 10 have been blended into interlocking shouldered engagement of the transverse laterally extending head portion 48 of the rib 46 within the axial re-entrant groove 44, with similar blended and shouldered interengagement of the upper marginal edges of the connector remote from its integral hinge 16. The more truly elliptical transverse outline of the compressed connector of FIG. 3 is representative of one particular set of dies between which the connector has been compressibly and plastically deformed from its initial configured cross-section and clearly reveals an appreciable flow and redistribution of the ductile metal of the connector body 10 from its initial uncompressed to final compressed installation on the cable or line members 32 and 34 in substantially voidless interlocking interengagement of the adjacently configured surfaces of the legs 12 and 14 and surface contact engagement of the compressed connector on the conductors 32 and 34. It will also be manifest that over-and-under or side-by-side hydraulically operated dies,

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conventionally employed in the application of connectors of the general classification encompassing the particularly described connectors of the present invention, may be selected to provide any desired exterior transverse configuration for the compressed and installed connector, the substantially elliptical exterior outline illustrated in FIG. 3 being the result of employing a pair of over-and-under substantially identical die halves defining a die cavity therebetween complementary to the elliptical exterior outline of the compressibly installed connector illustrated therein.

FIGS. 5 and 6 illustrate the same connector as described in reference to FIGS. 1 through 4. The only difference in the connector assembly of FIGS. 5 and 6 lies in the compressive installation of the connector by a conventional double-toggle or plier-type manually-operated pressure exerting tool, the exterior perimetrical ridges 70 on the body 10 of the connector being the result of separate bite application of the die halves of the tool axially along the connector body during its compressive assembly on the conductors 72 and 74.

FIGS. 7 through 12 represent a modification of the previously described connector and two different ways of applying the same in plastically deformed compressed assembled installation on two or more elongate members.

It will be observed that the connector of this embodiment of the invention also comprises a bifurcated body member 80 of ductile metal, such as aluminum or the like, configured and formed to provide a pair of diverging legs 82 and 84 hingedly and integrally connected through a reduced cross-section at 86 in a manner similar to the connector body 10 of FIG. 1. The leg portions 82 and 84 are respectively recessed at 88—90 and 92—94 to provide substantially right cylindrical axially parallel spaced cavities for receiving the line members 96 and 98, and the terminal ends of the diverging legs are configured to provide flexural interference snap engagement of the axial terminal ribs 100 and 102 within the grooves 104 and 106, respectively, of the legs 82 and 84, on finger application and oscillatory closing of the connector about its hinge area 86 in the same manner as described above for the connector of FIGS. 1 through 6.

Thus far the modified form of the connector is similar to that of FIG. 1. A difference therefrom, however, will be observed on reference to the axially extending ribs 108 and 110 extending inwardly away from the otherwise interior configured facing surfaces of the leg portions 82 and 84. It will be noted in this respect that each of the ribs or webs 108 and 110 terminates along its free inner axial marginal edge in a laterally oppositely directed hook-shaped configuration identified by the reference numerals 112 and 114, and that the marginal edges so identified provide flexural interference hook engagement therebetween during initial application of the connector (FIG. 8) on the line members 96 and 98 intermediate the interlocked upper ends of the leg portions 82 and 84 and the integral remote hinge center 86.

Compressive attachment and assembly of the connector body 80 (FIGS. 9 through 12) results in blended flow, redistribution and interengagement of the body metal of the modified connector in the same manner described for the connector of FIGS. 1 through 6, conventional complementary side-by-side or over-and-under hydraulically operated compression dies, and a conventional double-toggle plier-like compression tool having been employed to provide the particular elliptical and exterior ribbed and compressed connector assemblies illustrated in FIGS. 10 and 12, respectively.

Characteristic common structure of connectors falling within the scope of the invention, including the two specifically above-described embodiments selected for purposes of illustrating the invention, will be observed in the provision of a one-piece bifurcated metallic plastically-deformable body member having initially diverging

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legs with opposing facing surfaces thereof cooperatively configured to provide axially parallel spaced grooves therebetween for receiving at least two conductor or line members in axially parallel spaced relationship there-within, the diverging legs being otherwise interlockingly interengageable at their extremities remote from opposite integral hinge connection therebetween, and preferably also providing interlocking interengagement of the legs of the connectors intermediate the hinge and remote extremities thereof, the one-piece bifurcated body member so initially provided being capable of and responding to finger or hand-applied pressure to collapse or pivotally close the initially diverging legs into conductor-encompassing restraining clearance assembly about one or more conductors or lines received therewithin prior to subsequent compressively deformable affixation on the conductors.

An added novel structural feature capable of incorporation in connectors falling within the scope of the invention concerns the integral hinge connection between the diverging legs thereof. In this regard, and referring to FIG. 1, the contained angle between the diverging side walls of the interior hinge groove or notch 20 can be initially selected to insure surface contacting abutment of the aforesaid diverging side walls of the notch, under finger or hand-applied pressure to collapse or close the diverging legs of the connector, in advance of the aforesaid interlocking interengagement between the diverging legs of the connector. Such advance abutment of the side walls of the hinge notch 20 results in cold working of the material of the bifurcated connector in the immediate vicinity or area of the integral hinge 16 to a degree sufficient to restrain the diverging legs of the connector against separation, except by a mechanically applied separating force, even before interlocking interengagement between the diverging legs has been effected.

Exteriorly tool-applied loading and plastic deformable affixation of an initially finger-applied snap-installed connector of the invention on one or more axially parallel spaced conductors or lines, results in redistribution and plastic flow of the metal of a connector to impart an exterior configuration thereto substantially that defined between the working surfaces or die cavity of the die halves selected and employed in applying the exterior compressive pressure. The aforesaid compressive affixation of a connector also serves to blend the earlier described interlocking and interengaging adjacently disposed surfaces of the configured legs thereof in substantially voidless surface-contacting hook-defining or stepped interlocking abutment on themselves, as well as in conforming surface contact with the exterior surfaces of the conductors or line members supporting an affixed connector, with the net result that the affixed connector develops substantially full hoop strength and stress against separation or unintentional opening of the initially diverging legs of the connectors of the invention.

Typical of connectors of the invention is the location and inwardly extending extent of the intermediate interlocking ribs or configurations (40, 42 and 46 of FIG. 1 and 112 and 114 of FIG. 7), which permit partial closing of the hingedly connected bifurcated legs in loose surrounding and restraining engagement with the lowermost or secondary conductors 32 and 72 (FIGS. 2-6) and conductor 96 (FIGS. 8-12) in each instance in response to finger or hand-applied pressure on the bifurcated legs of the connectors. Connectors so partially installed can thereafter be received and firmly held within and between the die halves or jaws of conventional side entrance compression tools so that the connectors with one conductor loosely supported and restrained therein can be laterally advanced, with the compression tool supporting the same, over a main or primary conductor, such as the elongate lines 34 and 74 (FIGS. 2-6) and elongate line 98 (FIGS. 8-12), and thereafter com-

pressively affixed on both conductors within the connectors. This manner of installation of connectors of the invention is particularly useful where the main conductor is energized and the tool supporting and compressively affixing the connectors is a coordinated element of a conventional connector-applying hot stick.

The invention having been described and illustrated with reference to two selected one-piece connectors, it is to be understood that various changes and modifications may be incorporated therein without departing from the spirit and intended scope of the invention, or from the claims appended hereto.

It is desired to claim:

1. A connector adapted to initially loosely receive and be subsequently compressibly affixed in surface contact on a pair of substantially axially parallel spaced elongate line members over the axial length of the connector, said connector comprising a bifurcated body member in the form of a pair of diverging leg portions integrally connected through reduced cross-sectional thickness of the body member to provide a plastically flowable hinge connection at the juncture of the diverging legs, facing surfaces of the diverging leg portions being cooperatively recessed to receive the elongate members in substantially axially parallel spaced disposition therebetween, and each of said leg portions being configured remote from said hinge connection and adapted to provide flexural snap interference and interlocking interengagement therebetween in response to arcuate pivotal closing of the diverging leg portions about the hinge connection in response to finger-exerted external pressure applied on the diverging leg portions.

2. A connector adapted to initially loosely receive and be subsequently compressibly affixed in surface contact on a pair of substantially axially parallel spaced elongate line members over the axial length of the connector, said connector comprising a bifurcated body member in the form of a pair of diverging leg portions integrally connected at their juncture through reduced cross-sectional thickness of the body member to provide a plastically flowable hinge connection between the diverging leg portions, facing surfaces of the diverging leg portions being cooperatively recessed to receive the elongate members in substantially axially parallel spaced disposition therebetween, and said leg portions providing overlapping connection therebetween remote from the hinge connection adapted to provide flexural snap interference and interlocking interengagement thereof to initially loosely restrain at least one elongate line member within cooperating recesses therein in response to arcuate pivotal closing of the diverging leg portions about the hinge connection in response to finger-exerted external pressure applied on the diverging leg portions.

3. A connector adapted to receive and be subsequently compressibly affixed in surface contact on a pair of substantially axially parallel spaced elongate line members over the axial length of the connector, said connector comprising a bifurcated body member in the form of a pair of diverging leg portions integrally connected through reduced cross-sectional thickness of the body member to provide a plastically flowable hinge connection at the juncture of the diverging legs, facing surfaces of the diverging leg portions being cooperatively recessed to receive the elongate members in substantially axially parallel spaced disposition therebetween, each of said leg portions having oppositely projecting ribs extending towards each other within the contained angle between the diverging leg portions, and said ribs being disposed, configured and adapted to provide flexural snap interference and interlocking interengagement therebetween to initially receive and loosely restrain at least one elongate line member within the oppositely disposed cooperating recesses therein in response to arcuate pivotal closing of the diverging leg portions about the hinge connection under the influence of exteriorly-applied hand-exerted pressure.

4. A connector adapted to receive and be subsequently compressibly affixed in surface contact on a pair of substantially axially parallel spaced elongate line members over the axial length of the connector, said connector comprising a bifurcated body member in the form of a pair of diverging leg portions integrally connected through reduced cross-sectional thickness of the body member to provide a plastically flowable hinge connection at the juncture of the diverging legs, facing surfaces of the diverging leg portions being oppositely cooperatively recessed to receive at least two elongate line members introduceable laterally between the diverging leg portions into registry within the cooperating recesses in axially parallel spaced relationship, and said leg portions being further configured adjacent their extremities remote from the hinge connection and adapted to provide flexural interfering and interlocking interengagement therebetween to initially restrain the elongate line members received within the cooperating recesses in response to arcuate pivotal closing of the diverging leg portions about the hinge connection under the influence of hand-applied external pressure on the diverging leg portions.

5. A plastically deformable connector comprising a one-piece bifurcated body member in the form of a pair of diverging leg portions integrally connected at their juncture through reduced cross-sectional thickness of the body member to provide a plastically flowable hinge connection responsive to hand-applied pressure to close the leg portions, facing surfaces of the diverging leg portions being cooperatively recessed to provide passageways for receiving a pair of elongate line members introduceable laterally between the diverging leg portions in axially parallel spaced disposition in substantial axial parallelism to the axis of the hinge connection, a rib member extending inwardly from each recessed surface of the diverging leg portions, each rib being radially disposed away from the axis of the hinge connection a distance beyond at least one of the passageways receiving one of the elongate line members, and each of the rib members providing flexural contacting interference on arcuate closing of the diverging leg portions about the hinge connection in response to hand-exerted pressure applied thereon remote from the hinge connection to initially receive and loosely restrain at least one elongate line member within cooperating recesses nearest the hinge connection, and said rib members following flexural contacting interference therebetween providing interlocking surface engagement against separation of the diverging leg portions.

6. A flexible and plastically deformable compression type connector adapted for initial finger-applied snap installation on a pair of parallel spaced elongate line members, said connector having a one-piece bifurcated body formed by diverging leg portions integrally connected through reduced cross-sectional thickness of the body member to provide an integral flexible hinge connection, the diverging leg portions having facing surfaces recessed to provide over-and-under passageways to receive elongate line members in substantially parallel spaced relationship in terms of the axis of the flexible hinge connection, the terminal ends of said diverging leg portions remote from the hinge connection therebetween being each configured and adapted to provide flexural marginal interference interengagement therebetween in response to finger-applied pressure applied on the diverging leg portions, and said interference interengagement providing transverse hook-engagement of the diverging leg portions against lateral separation thereof.

7. A compressible and deformable connector for plastically deformable affixation of a drop-line in association with an installed elongate line member, said connector comprising a one-piece bifurcated body member with diverging leg portions adapted to be hingedly collapsed under hand-applied pressure to interengage inwardly and oppositely directed configured extensions of facing surfaces of the diverging leg portions, said facing surfaces

of the diverging legs being recessed to provide therebetween passages for receiving a drop-line and an installed elongate line member in parallel spaced relationship within the axial length of the connector radially outwardly away from the integral hinge connection between the diverging leg portions, said passage for receiving the drop-line being located between the integral hinge connection and inwardly and oppositely directed configured extensions between the diverging leg portions, and said inwardly and oppositely directed configured extensions of the facing surfaces of the diverging leg portions providing flexural interlocking snap interengagement against separation of the said leg portions following arcuate hinged collapse thereof in hand-applied affixation of the connector in surrounding relationship on the drop-line and subsequent installed elongate line member received within the passages formed between the collapsed diverging leg portions.

8. A connector for initial hand and subsequent compressibly deformed affixation on the exposed surfaces of parallel spaced elongate conductors, said connector comprising a one-piece bifurcated body member having initially diverging leg portions the facing surfaces of which are configured to provide cooperating recesses forming over-and-under conductor receiving passageways therebetween, an integral plastically flowable flexible hinge connection between the diverging leg portions formed by reduced cross-sectional thickness of the body member, the axis of said hinge connection being substantially parallel to the axes of the over-and-under passageways, a re-entrant channel groove intermediate the passageways in integral formation with one of the facing surfaces of one of the diverging leg portions, the facing surface of the other leg portion being provided with an integral laterally flanged rib extending toward the re-entrant channel, and said body member being adapted on arcuate approach of the diverging leg portions about the flexible hinge connection therebetween, under finger-exerted pressure, to dispose the laterally flanged rib within the re-entrant channel groove against reverse separation of the diverging leg portions.

9. A metallic electrical connector adapted for and responsive to flexural bending under finger-exerted external pressure to progressively and sequentially initially loosely install the same on two spaced parallel conductors prior to permanent deformation of the connector so initially loosely installed in affixed attachment on the conductors, said connector comprising a one-piece bifurcated body having diverging leg portions connected by an integral plastically flowable flexible hinge reduced in respect to adjacent contiguous transverse body cross-section of the diverging leg portions and responding to finger-exerted bending to cold work the metal of the body in the area of the hinge to restrain the diverging leg portions, facing surfaces of the diverging leg portions being oppositely recessed to provide a pair of side-by-side spaced parallel

cooperating conductor-receiving grooves in parallel disposition to said hinge, an opposite inwardly extending rib on each facing surface of each diverging leg portion located between the side-by-side pair of grooves in flexural interlocking alignment, and the angularly separated extremities of the diverging leg portions remote to the hinge being also configured to provide flexural interlocking interference therebetween, said connector being adapted in response to progressively applied finger-exerted pressure on opposite exposed surfaces of the diverging leg portions to first collapse the same about their hinge into interlocking interference of the inwardly extending ribs to loosely restrain one conductor within the groove adjacent the hinge, and progressively applied finger-exerted pressure causing interlocking interference of the extremities of the diverging leg portions to loosely restrain the second conductor within the remaining groove.

10. A connector for initial hand and subsequent compressibly deformed affixation on the exposed surfaces of parallel spaced elongate conductors, said connector comprising a one-piece bifurcated body member having initially diverging leg portions the facing surfaces of which are configured to provide cooperating recesses forming over-and-under conductor receiving passageways therebetween, an integral plastically flowable flexible hinge connection between the diverging leg portions formed by reduced cross-sectional thickness of the body member, the axis of said hinge connection being substantially parallel to the axes of the over-and-under passageways, an inwardly directed rib terminating in an offset hook configuration intermediate the passageways in integral formation with one of the facing surfaces of one of the diverging leg portions, the facing surface of the other leg portion being provided with an integral rib inwardly directed towards the first-mentioned rib and terminating in an offset hook configuration oppositely directed to said first-mentioned offset hook configuration, and said body member being adapted on arcuate approach of the diverging leg portions about the flexible hinge connection therebetween, under finger-exerted pressure, to dispose the oppositely directed offset hook configurations in interlocking interference against reverse separation of the diverging leg portions.

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