May 11, 1943. C. S. PENFOLD 2,318,648

CONNECTOR

Filed Jan. 30, 1939

Fig. 1

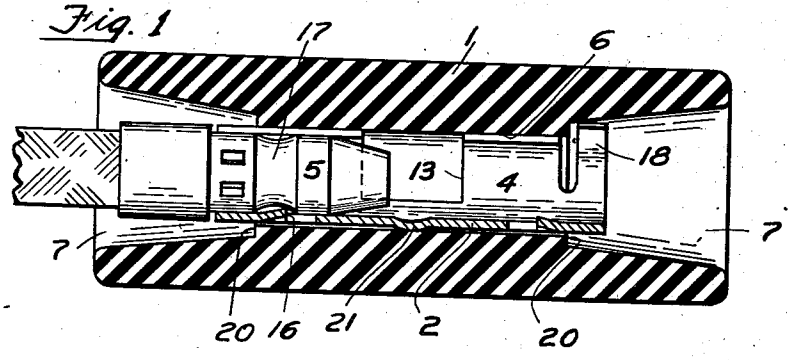


Fig. 3

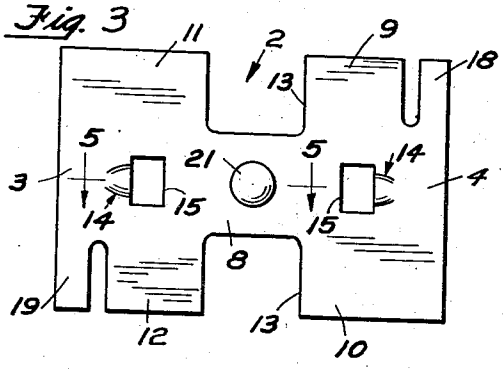


Fig. 2

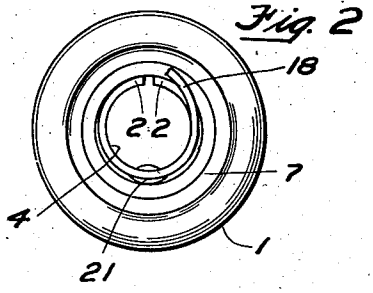
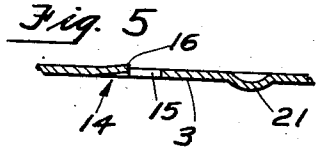


Fig. 5



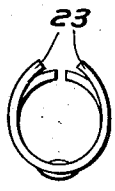
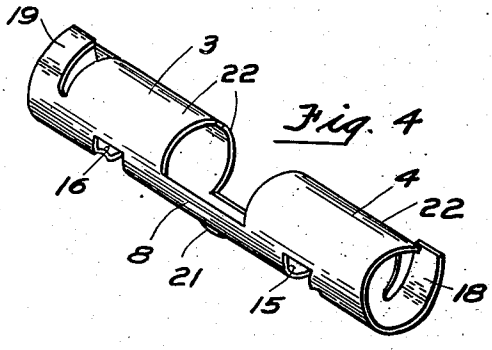


Fig. 6

Fig. 4



INVENTOR:-

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2,318,648

CONNECTOR

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Application January 30, 1939, Serial No. 253,698

32 Claims. (Cl. 173—328)

This invention relates generally to electrical connectors, known in the trade as line connectors, and particularly to connectors which are preferably adapted to receive plug conductor terminals of the snap type.

The principal object of the invention is to provide a new and improved connector, and more particularly a connector preferably consisting solely of two members, an outer tubular insulating sleeve, and an inner metallic circuit continuing member, which is adapted to receive plug conductor terminals.

One particular object is to provide snap connection means whereby the two members may be easily and quickly assembled together without the use of tools.

Other objects and advantages of the invention will appear hereinafter.

In the drawing accompanying this specification, and forming a part of this application, there is shown for the purposes of illustration, at least two forms of the invention, and in this drawing:

Figure 1 is an enlarged longitudinal sectional view of the invention, showing in addition a plug conductor terminal in elevation, cooperating with the metallic circuit continuing means;

Figure 2 is an end view of Figure 1 with the terminal omitted;

Figure 3 is a development of the circuit continuing member;

Figure 4 is a perspective view showing the development of the continuing member in Figure 3, formed into the desired shape, prior to its insertion into the sleeve member of insulating material;

Figure 5 is a section taken substantially on line 5—5 of Figure 3, showing more in detail the detent means formed in the circuit continuing member, and

Figure 6 is an end view of a modified form of the invention.

This application is a continuation in part of my co-pending application entitled "Electrical connection means," filed April 30, 1938, Serial Number 205,374, now Patent No. 2,303,384, dated Dec. 1, 1942.

Referring to the drawing, numeral 1 represents the outer tubular sleeve member constructed of some suitable insulating material, and 2 represents the metallic circuit continuing member, or insert, which is also preferably of tubular form. Said insert is provided with resilient portions forming receptacles 3 and 4 adjacent its extremities whereby to detachably receive and resiliently retain plug conductor terminals of the snap type, such as 5, one of which is shown in Figure 1, as being secured within the receptacle 3. It is to be particularly noted that when terminals are properly secured within the connector, the ends of the sleeve member 1 project beyond the terminals in order to prevent the terminals from coming in contact with some metallic object which might effect a short circuit.

The sleeve is preferably provided with an elongated cylindrical aperture or opening 6, and as shown in Figure 1, the major part of the insert 2 is arranged within this aperture. Each extremity of the sleeve is preferably provided with an inwardly extending tapered cylindrical recess, or countersink 7, which communicates with the aperture 6. Said recesses 7 are preferably of a diameter greater than the diameter of the aperture or opening 6, to provide shoulders 20, for a purpose which will be described later. Insofar as this invention is concerned, it is to be understood that it is immaterial whether or not the members 1 and 2 are cylindrical, or the recesses 7, are of the particular shape shown.

According to the development shown in Figure 3, the insert 2 preferably consists of a central body portion 8, to which is integrally connected at one extremity, a pair of corresponding substantially rectangular wing portions 9 and 10, and at the other extremity, with a pair of wing portions 11 and 12, corresponding substantially to the portions 9 and 10, all of said portions extending outwardly transverse to the longitudinal axis of the insert. The pair of wing portions 9 and 10 are preferably separated from the opposite pair of portions 11 and 12 by cut outs, or notches 13. In other words, the respective pairs of portions provide the receptacles 3 and 4. It is immaterial as to whether the notches are of the particular character shown, since the respective pairs of portions might be separated by real narrow slits or kerfs.

As above referred to, one object of the invention is to provide improved connector means whereby to detachably resiliently retain plug conductor terminals of the snap type. Accordingly, a pair of detents 14 are provided in the insert 2; and each detent is preferably formed by first striking out of central body portion 8 aperture 15 preferably rectangular in shape, and then deforming a marginal edge thereof to preferably provide a convex tapered projection, or lip, extending into each of the receptacles. The projections are preferably located on the marginal edges which face each other, and as shown in Figure 1, the arris 16 of each projection, or de-

tent, is adapted to bite into the wall defining the groove, or cove, 17 provided in the terminal 5. Detents of this character, together with the resilient wing portions forming the receptacles function to effectively grip, and resiliently retain terminals. It is to be distinctly understood that the location of the detents is immaterial insofar as this invention is concerned, as the detents may be provided elsewhere such as adjacent the free extremities of the wing portions 9 through 12. Of course it is to be understood that the wing portions forming the receptacles are of a resilient character, and expand and contract when terminals are properly seated therein, and that each receptacle functions independently of the other, as one terminal may be inserted into one of the receptacles and withdrawn therefrom without in any way affecting the holding action of the other receptacle upon a terminal disposed therein. Also, the receptacles are preferably made of a sufficient length to engage considerable surface area of the terminals, in order to decrease as much as possible the millivolt drop between the insert and the terminals.

The manner in which the members 1 and 2 are secured, or locked together will now be considered. One of the wing portions of each pair of wing portions, is preferably provided with a resilient tongue, and as herein shown, the alternate exterior wings 9 and 12 are provided with curved tongues 18 and 19, respectively.

When the metal insert shown in Figure 3 is formed or rolled into the desired shape substantially according to Figure 4, the tongues 18 and 19 are preferably allowed to remain in an extended or lateral position with respect to the curved wing portions, but if desired the tongues might be struck out subsequently. The grain of the metal runs transverse to the longitudinal axis of the insert, and consequently the insert is very durable, and there is very little likelihood of the tongues breaking off.

To assemble the insert with the sleeve member 1, it is only necessary to insert either end of the insert into either of the tapered cylindrical recesses 7 so that the tongue adjacent the end of the insert that is being inserted, is compressed to such an extent that the insert may be pushed into the opening 6 until the other tongue engages one of the shoulders 20, whereupon the compressed tongue will snap outwardly to substantially engage the other shoulder 20, to lock the two members together. In other words, one of the tongues provides a stop whereby to predetermine the position of the other tongue with respect to a shoulder. In effect, the tongues 18 and 19 straddle the material forming the opening 6. The recesses 7 assist to pilot the insert into registry with the opening 6, and permit the insert to be held, or tilted, at an angle with respect to the axis of the sleeve, in order to allow the operator to force one of the tongues against a shoulder to press the tongue inwardly, and thereby make it easier to assemble the parts.

Obviously, greater locking action may be assured by the provision of a pair of resilient tongues 23, adjacent each of the receptacles 3 and 4, as shown in Figure 6, and if one tongue should be accidentally broken off then the other auxiliary tongue will function to lock the members together.

In order to eliminate rattling, or unnecessary vibration between the sleeve 1 and the insert 2, the insert is preferably provided with a centrally located cylindrical depression or boss 21, that extends from the body portion 8 in a direction opposite to that of the detents 14. The diameter of the insert adjacent the depression 21 is slightly greater than the diameter of the opening 6, and the longitudinal parallel margins 22 of the resilient wing portions forming the receptacles 3 and 4 are preferably adapted to engage or bear against the inner surface or wall of the opening 6, and function to urge the depression 21 against said wall; in other words, the opposite sides of the insert are adapted to frictionally engage the wall of the opening substantially at three places, in order to provide a well balanced assembly.

It should now be apparent that improved means have been provided whereby the insert and sleeve may be easily and quickly assembled together by snap connections, to thereby avoid the use of tools.

Having thus described my invention, it is obvious that various additional immaterial modifications may be made in the same without departing from the spirit of the invention; and, therefore, I do not wish to be understood as limiting myself to the exact forms, constructions, arrangements, and combination of parts, herein shown and described.

I claim:

1. An electric connector comprising a tubular one piece sleeve of insulation provided with recesses, a metal insert having a base provided with tubular end formations adapted to receive and resiliently retain conductor terminals, said insert being arranged in said sleeve, and provided with resilient tongues projecting laterally with respect to said extremities and into said recesses for holding said insert in relation to said sleeve, and means integral with and intermediate the ends of said base of said insert whereby to prevent vibration between said insert and said sleeve said tongues being so constructed and arranged that at least one of the tongues must be pressed laterally before the insert can be inserted into the sleeve.

2. An electrical connector comprising a tubular one piece sleeve of insulating material provided with recesses, a sheet metal insert having a base provided with tubular end formations adapted to receive and resiliently retain conductor terminals, said insert being constructed and arranged for possible slight rotation in said sleeve and provided with resilient preformed tongue means projecting transversally into said recesses for holding said insert in relation to said sleeve, and means integral with and intermediate the ends of said base of said insert projecting therefrom to engage the inner surface of said sleeve whereby to prevent possible slight vibration between said insert and said sleeve.

3. An electrical connector comprising a block of insulating material provided with an elongated substantially cylindrical aperture and recesses extending inwardly from the ends of said block in communication with the extremities of said aperture, said recesses being substantially annular and of a slightly greater diameter than the diameter of said aperture to provide shoulders at the junctions of said aperture and said recesses, a metal insert including a base portion provided with split cylindrical resilient receptacles adapted to receive conductor terminals arranged in said aperture, a resilient projection provided on one of said receptacles, a preformed extended projection provided on the other of said receptacles providing a stop engaging one of said shoulders whereby to predetermine the

position of the first-mentioned projection relative to the other shoulder, said first-mentioned projection being adapted to snap outwardly into the recess adjacent said other shoulder, said projections holding said insert in relation to said block, detents formed in the base portion of said insert opposite the material adjacent the split provided in each receptacle, each detent being provided with a sharp edge arranged to engage a terminal, and antivibration means in the form of a projection provided in the base portion of said insert remote from said receptacles engaging the wall of said aperture whereby to prevent possible vibration between said insert and said sleeve.

4. An electrical connector comprising a block of insulating material provided with an elongated cylindrical aperture and a recess extending inwardly from each end of said block in communication with the extremities of said aperture, said recesses being annular and of a slightly greater diameter than the diameter of said aperture whereby to provide shoulders at the junctions of said aperture and said recesses, a metal insert including a base portion having adjacent its extremities split cylindrical receptacles having resilient portions adapted to receive conductor terminals arranged in said aperture, a resilient projection provided on one of said receptacles, a preformed extended projection provided on one of the resilient portions of the other receptacle providing a stop adapted to engage one of said shoulders to predetermine the position of the first-mentioned projection relative to the other shoulder whereby said first-mentioned projection will snap outwardly into the recess adjacent said other shoulder when the insert is being inserted into said block, said projections holding said insert in relation to said block, and a detent adapted to engage a terminal formed in each receptacle.

5. An electrical connector comprising a block of insulating material provided with an elongated cylindrical aperture and a recess extending inwardly from each end of said block in communication with the extremities of said aperture, said recesses being annular and of a slightly greater diameter than the diameter of said aperture whereby to provide shoulders at the junctions of said aperture and said recesses, a metal insert arranged in said aperture including a base portion having adjacent its extremities split cylindrical receptacles having resilient portions adapted to receive conductor terminals, a resilient projection provided on one of the resilient portions of one of the receptacles, a preformed extended projection provided on the other receptacle providing a stop adapted to engage one of said shoulders to predetermine the position of said first-mentioned projection relative to the other shoulder whereby said first-mentioned projection will snap into the recess adjacent said other shoulder when the insert is being inserted into said block, said projections holding said insert in relation to said block, and a detent adapted to engage a terminal formed in the base portion of said insert opposite the material adjacent the split in one of said receptacles.

6. An electrical connector comprising a block of insulating material provided with an aperture and recesses extending inwardly from the ends of said block in communication with the extremities of said aperture, said recesses also extending transversally to said aperture whereby to provide shoulders at the junctions of said aperture and said recesses, a metal insert including a base portion having adjacent its extremities split semi-cylindrical resilient portions forming receptacles adapted to receive conductor terminals arranged in said aperture, a preformed resilient projection provided on one of said receptacles and extending outwardly with respect to same into one of said recesses, a resilient projection provided on one of the resilient portions of the other receptacle extending into the other recess, and said projections holding said insert in relation to said block and being so constructed and arranged that one or the other of said projections must be pressed laterally before the insert can be inserted into the block.

7. A tubular sleeve having an abutment provided with spaced apart shoulders within the sleeve, a circuit continuing member arranged entirely within the confines of said sleeve, said member having a pair of spaced apart individually operable split receptacle formations, each receptacle including a resilient portion having a part adapted to be snapped outwardly with respect to the remainder of the receptacle to substantially engage a shoulder whereby said parts hold said member and said sleeve in assembly.

8. The structure defined in claim 7, in which: either end of the circuit continuing member may be inserted into either end of the outer sleeve.

9. In an electrical connector for association with a pair of conductors each having a terminal, the combination of an outer body having an opening extending therethrough, a generally tubular contact received within said opening and adapted to interlockingly receive one of said terminals in each end thereof, a holding part formed integrally with and extending laterally inwardly from the wall of said opening, said contact having a pair of deflectable fingers spaced along the length thereof adapted to receive said part between them so as to hold said contact in place within said body, said deflectable fingers permitting said contact to be inserted into said outer body from either end during which movement one or the other of said fingers deflects during its passage past said part.

10. The structure defined in claim 9, in which: the contact is provided with a second pair of fingers which act and serve the same purpose as the first-mentioned pair of fingers.

11. A tubular housing having recesses adjacent its extremities, a circuit continuing member insertable into either end of the housing arranged substantially entirely within the confines of the housing, said member having means which may be engaged by conductor means, a pair of resilient tongues provided on said member and a separate tongue spaced longitudinally from said pair of tongues, said tongues projecting into said recesses whereby to hold said member in said housing.

12. The structure defined in claim 11, in which: either the pair of tongues or the separate tongue will snap when the member is inserted into the housing.

13. An electrical connector including, an outer body having an opening therein, abutment means within the body, an insert part insertable into either end of the opening arranged in the opening and providing receptacle means which may be engaged by conductor means, and said insert having flexible tongue portions on said receptacle means disposed in the body, one or the other of said portions being made to flex into cooper-

ation with the abutment means when the insert is inserted into the body, said tongue portions substantially engaging the sides of said abutment means whereby to hold the insert in place.

14. An electrical connector including, an outer body having an opening therein, said body having an abutment therewithin, an insert part arranged in said opening having means to which a plug conductor may be connected, said means consisting of a pair of spreadable portions between which the plug conductor is adapted to be inserted and resiliently held by said spreadable portions, said insert also having generally tubular conductor receiving means spaced from said spreadable portions, stop means provided adjacent said conductor receiving means engaging one side of the abutment for holding the insert part against movement in one direction in said body, and said insert also having yieldable portions spaced longitudinally from said stop means and extending laterally with reference to the remainder of the insert engaging the other side of said abutment for holding the insert part against movement in the opposite direction in said body, said yieldable portions being adapted to snap into engagement with said other side of said abutment when the insert part is projected into the opening.

15. The structure defined in claim 14, in which: the yieldable portions are provided ad acent the spreadable portions whereby when the spreadable portions are spread apart at least portions of the yieldable portions will be moved therewith.

16. The structure defined in claim 14, in which: the abutment is fashioned by enlarging extremities of the opening to provide recesses, the bases of which form shoulder means constituting the sides of the abutment; and the stop means and yieldable portions are disposed in the recesses.

17. An electrical connector including, an outer body having an opening therein, said body having an abutment therewithin, an insert part consisting of resilient portions arranged substantially entirely within the confines of said opening having means to which a plug conductor may be connected, said means consisting of a pair of spreadable portions between which the plug conductor is adapted to be inserted and resiliently held by said spreadable portions, said insert also having generally tubular conductor receiving means spaced longitudinally from said spreadable portions, a pair of resilient stop means provided adjacent said conductor receiving means engaging one side of the abutment for holding the insert part against movement in one direction in said body, and said insert part provided with yieldable portions having flexible portions spaced longitudinally from said stop means extending laterally with reference to the remainder of the insert engaging the other side of said abutment for holding the insert part against movement in the opposite direction in said body, at least one of said flexible portions being adapted to snap into engagement with said other side of said abutment when the insert part is projected into the opening.

18. The structure defined in claim 17, in which: the abutment is fashioned by enlarging extremities of the opening to provide recesses, the bases of which form shoulder means constituting the sides of the abutment; the stop means project transversely with respect to the insert part; and the flexible portions are provided adjacent the spreadable portions.

19. An electrical connector including, an outer body having an opening therein, said body having an abutment presenting a pair of spaced shoulders therewithin and spaced inwardly from two opposite surfaces of the body, an insert part arranged entirely in said opening having means to which a plug conductor may be connected, said means consisting of a pair of spreadable portions between which the plug conductor is adapted to be inserted and resiliently held by said spreadable portions, said insert also having generally tubular conductor receiving means spaced from said spreadable portions, a pair of stop means extending from said conductor receiving means engaging one shoulder for holding the insert part against movement in one direction in said body, and said insert also having yieldable portions spaced longitudinally from said stop means and extending outwardly with reference to the remainder of the insert engaging the other shoulder for holding the insert part against movement in the opposite direction in said body, said yieldable portions being adapted to snap into engagement with said other shoulder of said abutment when the insert part is projected into the opening.

20. The structure defined in claim 19, in which: the shoulders are formed by enlarging extremities of the opening to provide recesses, the bases of which constitute the shoulders; the stop means and yieldable portions are disposed in the recesses; and the yieldable portions are carried by the spreadable portions.

21. An electrical connector including, an outer body of insulating material having an opening therein, said body having abutment means therewithin, an insert part arranged in said opening having means to which a plug conductor may be connected, said means consisting of a split receptacle having a pair of spreadable portions between which the plug conductor is adapted to be inserted and resiliently held by said spreadable portions, said insert also having a generally tubular conductor receiving means spaced from said spreadable portions, stop means provided adjacent said conductor receiving means and extending outwardly with reference thereto engaging one side of the abutment means for holding the insert part against movement in one direction in said body, and each of the spreadable portions of said insert also having a yieldable tongue portion spaced longitudinally within the opening from said stop means and extending laterally with reference to the remainder of each spreadable portion engaging the other side of said abutment means for holding the insert part against movement in the opposite direction in said body, said yieldable tongue portions being adapted to yield when passing over the abutment means and snap into engagement with said other side of said abutment means when the insert part is projected into the opening, and said stop means and said tongue portions straddling portions of the material between said abutment means.

22. The structure defined in claim 21, in which: the abutment means is fashioned by enlarging extremities of the opening to provide recesses, the bases of which constitute the abutment means; the stop means includes a pair of corresponding portions which engage the abutment means; the yieldable tongue portions are provided adjacent an extremity of the slit receptacle and at least the outer extremities of the tongues engage the abutment means; and the stop means and yieldable tongues are disposed in the recesses.

23. A pair of generally tubular members connected together one substantially within the other, abutment means provided on one member, and a plurality of yieldable means provided on the other member engaging one side of said abutment means and a yieldable finger spaced longitudinally from said plurality of yieldable means engaging the other side of said abutment means for holding the parts assembled, said plurality of yieldable means and said finger permitting said last-mentioned generally tubular member to be inserted into said first-mentioned generally tubular member from either end during which movement the yieldable means or the finger deflects during its passage past said abutment means so that said abutment means is received by the yieldable means and finger.

24. Electrical connection means including, a generally tubular insulator member provided with abutment means therein, insert means insertable into either end of the insulator member and providing means to which a conductor may be secured thereto arranged in said insulator member, said insert means also being provided with abutment means, and yieldable means provided on said insert means functioning in a manner whereby one of said abutment means will be received by the other abutment means whereby to lock the member and insert means in assembly, said yieldable means being so constructed and arranged that said insert means may be snapped into said insulator member.

25. Electrical connection means including, an insulator member provided with an opening therein, abutment means projecting transversely with respect to the axis of said opening, an insert member insertable into either end of said opening and providing means to which a conductor may be secured disposed in said opening, said insert member being provided with a yieldable first finger and a second finger constructed and arranged to provide a recess receiving said abutment means, and auxiliary yieldable means being snappable into position when the insert member is inserted into the insulator member and functioning to hold said abutment means within said recess.

26. An electrical connector comprising a housing of insulating material provided with an opening extending therethrough, said opening being enlarged at its ends to provide recesses joined by an intermediate restricted portion, the base of each recess forming with the restricted portion a shoulder means, an insert disposed in said opening and recesses, spaced apart means provided on the insert for receiving conductor terminals, each of said spaced apart means comprising a pair of walls which walls are engaged by the terminals, a resilient portion of said insert adjacent one of said spaced apart means and operable independently thereof projecting into one recess to engage one of said shoulder means, and a pair of flexible portions provided adjacent the other receiving means projecting into the other recess and engaging the other shoulder means whereby to lock the insert in place, at least one of said flexible portions being so constructed and arranged that the same is caused to snap into cooperation with said other shoulder means when the insert is inserted into the housing.

27. An electrical connector comprising a housing of insulating material provided with an opening extending therethrough, said opening being enlarged at its ends to form recesses joined by an intermedia e restricted portion, the base of each recess forming with the restricted portion a shoulder means, a one piece insert disposed in said opening and recesses, spaced apart split receptacle means provided on the insert for receiving conductor terminals, a portion of said insert adjacent one of said spaced apart receptacle means projecting into one recess to engage one of said shoulder means, and a pair of yieldable projections provided on the other receptacle means projecting outwardly with reference thereto snappable over and into engagement with the other shoulder means for holding the insert in place.

28. A connector comprising, a housing having an opening extending therethrough, said opening being enlarged adjacent its extremities to provide recesses joined by an intermediate restricted portion, insert means disposed substantially entirely within the confines of the opening and recesses, said insert means being provided with a generally tubular conductor receiving means and plug conductor receiving means spaced from said tubular means comprising a pair of movable portions adapted to receive between them a plug, resilient means provided adjacent said generally tubular receiving means cooperable with one side of the restricted portion for holding the insert means against movement in one direction, and a pair of flexible portions provided adjacent the plug conductor receiving means cooperable with the other side of the restriction for locking the insert means against movement in the opposite direction, at least one portion of said pair of flexible portions being slidable over the restricted portion into snapping cooperation with the said other side of the restriction when the insert is inserted into the housing.

29. An electrical connector comprising, a housing of insulating material provided with an opening extending therethrough, said opening being enlarged at its ends to form recesses joined by an intermediate restricted portion, the base of each recess forming with the restricted portion a shoulder means, one-piece sheet metal insert means disposed substantially entirely within the confines of said openings and said recesses, spaced apart means provided on said insert means for connection with conductor means, one of said spaced apart means being contractable and expansible and the other comprising a pair of walls for connection with conductor means, a yieldable portion of said insert adjacent said one spaced apart means projecting into one recess to engage one of said shoulder means, and a pair of yieldable portions provided adjacent said other conductor receiving means projecting into the other recess and cooperable with the other shoulder means whereby to lock the insert means in place, at least one of said pair of yieldable portions being adapted to snap into position when the insert means is inserted into the housing, and said other conductor receiving means being so constructed that when a conductor is projected thereinto the said pair of yieldable portions will be moved in a direction whereby to further assist in cooperating with said other shoulder means whereby to better lock the insert means in place.

30. An electrical connector comprising a housing of insulating material provided with an opening extending therethrough, said opening being enlarged at its ends to form recesses joined by an intermediate restricted portion, the base of each recess forming with the restricted portion a shoulder means, insert means disposed substantially

entirely within the confines of said opening and recesses, spaced apart means provided on said insert means for receiving conductor means, one of said spaced apart means being generally tubular, and the other spaced apart means being comprised of yieldable flexible portions between which a plug conductor terminal is adapted to be projected, a yieldable portion provided adjacent said generally tubular conductor receiving means projecting into one recess whereby to engage one of said shoulder means, and a second yieldable portion provided adjacent one of said flexible portions of said plug conductor receiving means projecting into the other recess and engaging the other shoulder means whereby to lock the insert means in place, at least one of said yieldable portions being adapted to snap into position when the insert means is inserted into the housing.

31. A connector comprising a housing of insulating material and insert means, said housing having an opening provided with abutment means therein, either extremity of said insert means being insertable into one particular end of the opening and fashioned to present longitudinally extending portions which may be engaged by conductor means, each of said longitudinally extending portions being provided with a pair of tongues which project transversely with respect to the portions to receive the abutment means whereby to lock the parts together, and at least one of the tongues being so constructed and arranged that same will be caused to snap when the insert means is inserted into its proper place in the housing.

32. In an electrical connector for association with a pair of conductors each having a terminal, the combination of an outer body having an opening extending therethrough, a generally tubular insert received within said opening and adapted to interlockingly receive one of said terminals in each end thereof, a holding part formed integrally with and extending laterally inwardly from the wall of said opening, said insert having at least two pairs of deflectable fingers spaced along the length thereof adapted to receive said part between them so as to hold said insert in place within said body, said deflectable fingers permitting said insert to be inserted into said outer body from either end during which movement one or the other pair of said fingers deflects during its passage past said part.

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