Aug. 23, 1932. G. L. CHAMBERLAIN 1,872,678

SECTIONAL PLUG STRUCTURE

Filed Aug. 14, 1929

FIG. 1

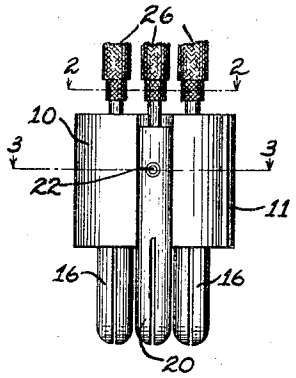


FIG. 2

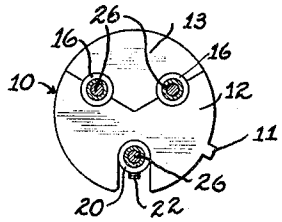


FIG 4

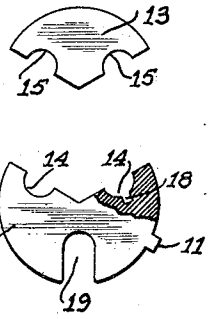


FIG. 3

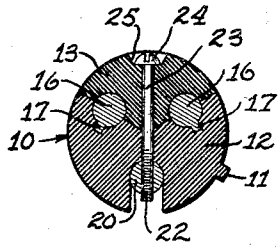
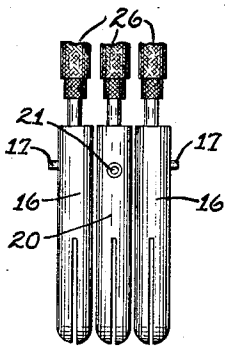


FIG. 5



WITNESSES:
R. A. Larsson
F. C. Appleton

INVENTOR:
GEORGE L CHAMBERLAIN,
BY Joshua R. H. Potts
HIS ATTORNEY.

Patented Aug. 23, 1932 1,872,678

UNITED STATES PATENT OFFICE

GEORGE L. CHAMBERLAIN, OF CHICAGO, ILLINOIS

SECTIONAL PLUG STRUCTURE

Application filed August 14, 1929. Serial No. 385,958.

This invention relates to multiple wire connections, and more particularly to a sectional plug structure, the principal object of the invention being to simplify and make more practical such structures so as to facilitate the placing of the terminal contact members in the plug, and to attain certain other advantages which will hereinafter more fully appear.

The invention consists in the novel structure and in the parts and combinations and arrangements of parts as hereinafter described and set forth with particularity in the appended claims.

In the accompanying drawing, forming part of this specification,—

Fig. 1 is a side elevation of a plug assembly illustrating an embodiment of the invention;

Fig. 2 is a top plan view and section on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on or about the line 3—3 of Fig. 1;

Fig. 4 is a top plan view of the plug body with the terminal contacts removed and the two body sections separated; and

Fig. 5 is a view, in side elevation, of the terminal contact members detached.

Referring now to the drawing, the numeral 10 designates generally the body portion of the device, which may be composed of a suitable insulating material such as bakelite, vulcanized rubber, porcelain or other suitable material. This member may be of any desired or suitable shape, but, as shown, it is of general cylindrical form, and it is provided with a longitudinal rib 11 which, in use, slideably fits in a guideway provided therefor in the receptacle in which the plug is placed.

As shown more clearly in Figs. 2 and 4 of the drawing, the body 10 is made in two sections 12 and 13, respectively, said sections being produced by dividing the member 10 on two radial lines of division so that the smaller section 13 is in effect a substantially wedge-shaped segment which fits in a counterpart recess in the larger member 12. The meeting faces of the two sections 12 and 13 are grooved longitudinally as at 14 and 15, respectively, said grooves registering when the two sections are assembled, thereby producing longitudinal bores through the plug body.

The longitudinal openings provided by the registered grooves 14 and 15 are for the accommodation of terminal contact members 16, which obviously may be of the plug or stud type, as shown in the drawing, or of the socket or tubular type, as the case may be. These members 16 are preferably provided with laterally projecting pins or lugs 17 which fit in recesses 18 provided therefor in the member 12 when the parts are assembled, said projections 17 when engaged in said recesses 18 serving to hold said members 16 against endwise as well as rotative movement in the plug body 10.

The section 12 of the plug body 10 is provided with a longitudinally extending circumferentially groove 19 for the accommodation of terminal contact member 20 which is similar to the members 16 except, instead of having the laterally projecting pin or lug 17 thereon, it is provided with a transverse screw-threaded aperture 21 at or about the same location where said pin or lug occurs on the member 16. The said screw-threaded opening 21 in the member 20 is provided for the reception of the screw-threaded end portion 22 of a bolt 23, which latter is passed through alined transverse bores in the body sections 12 and 13 whereby to hold said body sections against separation laterally, as well as relative longitudinal movement thereof, the head 24 of said bolt 23 being received in a recess 25 provided therefor in the circumferential portion of the body section 13.

In assembling the structure, the terminal contact members 16 are placed in the grooves 14 of the body section 12 with their lateral projections 17 inserted in the recesses 18 as above described. Obviously, owing to the angular relation of the meeting faces of the two body sections 12 and 13, in which the grooves 14 and 15 are provided, said sections cannot be brought laterally together in direct abutting relation when the terminal contact members 16 are placed in the grooves 14, but the member 13 may be moved endwise with its grooved portions 15 in slideable engage-

ment with said members 16 until said two body members 12 and 13 are brought into relation with each other with their end faces flush. In this assembled relation the two body sections 12 and 13 are held against lateral separation by the interlocking key effect of the terminal contact members 16 in the grooves 14 and 15. After the two body sections have been thus assembled the terminal contact member 20 is placed in the groove or channel 19 and a screw bolt 23 is then applied, and the cooperative effect of the engaged terminal contact member and bolt 23 being to securely clamp the two body sections 12 and 13 transversely and at the same time hold them securely against independent longitudinal movement.

The respective terminal contact members 16 and 20 are connected in the usual manner with the conducting wires 26. In some cases all of the terminal contact members will be connected to the respective wires 26, while in other cases only one or two of said terminal contact members will be connected, the others being dead, according to the particular use to which the plug is applied. In any case, however, the invention is applicable to a multiple terminal device and comprehends the sectional structure embodying a minimum number of parts and facilitating the assembling and dismantling of the structure, and while the structure shown illustrates a practical embodiment of the invention, it is to be understood that same may be modified in many respects without departing from the spirit and scope of the invention as defined by the appended claims. The invention, therefore, is not limited to the specific construction and arrangement shown.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a multiple wire connection, a sectional plug body composed of insulating material, said body being divided on radial lines, producing matching segmental sections having angular meeting faces, said meeting faces having registering longitudinal grooves producing tubular openings in the assembled body, and one of said sections having a longitudinal circumferential groove, terminal contact members fitted in the thus provided tubular openings with transverse interlocking key effect, an additional terminal contact member removably fitted in said circumferential groove, and means cooperating with the terminal contact member in said circumferential groove for further securing said body sections against transverse separation and also preventing relative longitudinal movement between said body sections.

2. In a multiple wire connection, a body member composed of insulating material and divided on two radial lines whereby to produce two matching segmental sections whose meeting faces are angularly disposed and are provided with registering longitudinal grooves affording tubular openings in the assembled body, one of said sections having a lontgitudinal circumferential groove, terminal contact members fitted in said tubular openings whereby to lock said segmental body sections laterally but permitting relative longitudinal movement between them, an additional terminal contact member in said circumferential groove, and a bolt extending transversely through the assembled body sections and engaging the terminal contact member in the circumferentially grooved section whereby to releasably hold said sections against lateral separation and relative longitudinal movement.

3. The herein described multiple wire connection comprising a substantially cylindrical plug body of insulating material, said body being divided on radial lines to produce two separable sections one of which is recessed with angular walls and the other being of counterpart interfitting form, the meeting faces of said sections having longitudinal registering semi-circular grooves providing bores in the assembled body, the grooves in one body section having transverse recesses, one of said body sections having a longitudinal circumferential groove, terminal contact members fitted in the bores afforded by the registered groove portions of the two body sections with laterally interlocking key effect, said contact members having lateral projections engaged in the transversely recessed portions of the body grooves, an additional terminal contact member in said circumferential groove, and a bolt extending transversely through said body members and engaging said terminal contact member in said circumferential groove whereby to further bind said body sections transversely and to secure them against relative endwise movement.

4. An electrical circuit connecting device comprising a body member composed of insulating material, said body being divided into matching segmental sections, the meeting faces of said sections being diagonally disposed and grooved longitudinally with respect to the axis of the body, the grooves in the meeting faces of the assembled sections registering to produce tubular openings through the body, and electrical conducting elements fitted in said tubular openings thus provided with interlocking key effect whereby to prevent transverse separation of said segmental sections, but permitting relative longitudinal movement thereof.

5. An electrical circuit connecting device comprising a body member composed of insulating material, said body being divided into matching segmental sections whose meeting faces are angularly disposed and provided with longitudinal grooves registering in

the assembled relation of the segmental sections to afford tubular openings in the body, and electrical terminal contact members fitted in said tubular opening whereby to guide the respective segmental sections slidably into cooperative assembled relation to each other, but functioning with interlocking key effect to prevent transverse separation of the assembled sections.

In testimony whereof I have signed my name to this specification.

GEORGE L. CHAMBERLAIN.