March 25, 1941. M. SCHNEIDER 2,236,385

PLUG CONNECTOR

Filed July 22, 1939

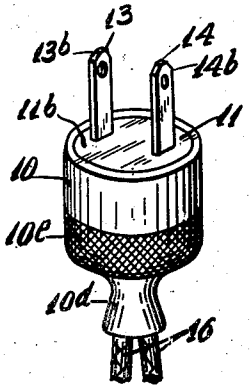


Fig. 1.

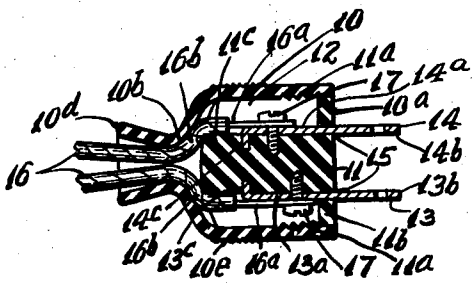


Fig. 2.

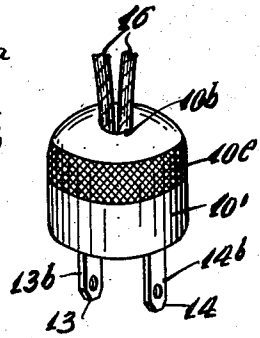


Fig. 8.

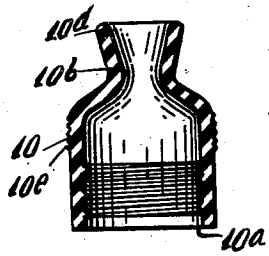


Fig. 3.

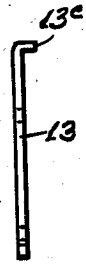


Fig. 5.



Fig. 6.

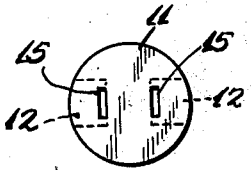


Fig. 7.

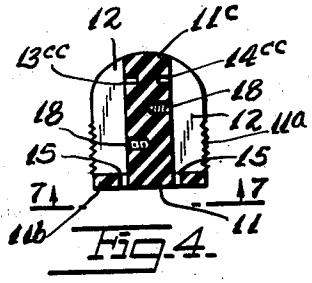


Fig. 4.

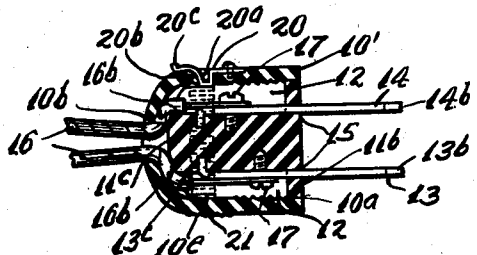


Fig. 9.

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2,236,385

PLUG CONNECTOR

Martin Schneider, New York, N. Y.

Application July 22, 1939, Serial No. 285,835

1 Claim. (Cl. 173—361)

This invention relates to new and useful improvements in a plug connector.

The invention has for an object the construction of a plug connector which is characterized by a tubular body, and a core threadedly engaged therein, and these parts being arranged in a certain way so that conductor wires used in the plug connector may be clamped between the tubular body and the core. The advantage of this construction resides in the fact that pulls and other strains transmitted by the conductor wires will be taken up by the tubular body and core and so be restrained from being transmitted to the usual screws used in securing the conductor wires in place in the plug connector.

Still further the invention contemplates the construction of a tubular body in a certain way so that it may or may not have a projecting rear portion which may be used as a handle.

Still further the invention proposes the provision of a novel means for fixedly holding the core in position in the tubular body, to prevent these parts from becoming accidentally loosened.

Another object of this invention resides in the construction of a plug connector as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of a plug connector constructed in accordance with this invention.

Fig. 2 is a vertical sectional view of the plug connector shown in Fig. 1.

Fig. 3 is a sectional view of the tubular body, per se.

Fig. 4 is a sectional view of the core, per se.

Fig. 5 is a side elevational view of one of the contact strips used in the plug connector.

Fig. 6 is a side elevational view of another one of the contact strips used in the plug connector.

Fig. 7 is a bottom view of Fig. 4 looking in the direction of the line 7—7 thereof.

Fig. 8 is a perspective view of a plug connector constructed in accordance to another embodiment of this invention.

Fig. 9 is a vertical sectional view of the plug connector illustrated in Fig. 8.

The plug connector in accordance with this invention includes a tubular body 10 having an open front end 10a and a restricted open rear end 10b. A core 11 is threadedly engaged into said body 10 through the open front end 10a. This core 11 has a central threaded area 11a which threadedly engages complementary threads formed upon the inside wall of the tubular body 10. At its front end the core 11 has a disc shaped portion 11b. At its rear end the core 11 has a dome shaped portion 11c. The core 11 is also formed with several longitudinally extending grooves 12 formed in its sides and extending from the rear end 11c to a short distance from the front end of the core. More specifically the grooves 12 terminate at the rear of the disc portion 11b.

A pair of contact strips 13, 14 have their inner ends 13a and 14a respectively mounted in the grooves 12 and have their front ends 13b and 14b respectively projecting from apertures 15 formed in the font end of the core 11. These contact strips have offset inner end portions 13c and 14c respectively, engaging into complementary receiving openings 13cc and 14cc formed in the base of the grooves 12.

Conductor wires 16 extend into the restricted open rear end 10b of the tubular body 10 and have their inner extremities 16a connected with the contact strips 13 and 14. More specifically the conductor wires 16 have insulation portions removed from their front ends 16a, and it is these exposed end portions which are attached to the conductor strips 13 and 14.

Small head screws 17 are threadedly mounted through the conductor strips 13 and 14 each are threadedly extended into openings 18 formed in the base of the grooves 12. The end portions 16a of the conductor wires 16 are turned around beneath the heads of the screws 17. Certain areas of the conductor wires 16, indicated by the reference numeral 16b, are clamped between the rear end of the body 10 and the rear end of the core 11. This serves to rigidly and fixedly connect the conductor wires 16 with the plug connector and take all pulls and strains transmitted by the conductor wires, off of the screws 17.

The rear end of the tubular body 10 is formed with an outwardly flared portion 10d encircling portions of the conductor wires 16. This flared portion may be used as a handle by which the conductor plug may be conveniently gripped and manipulated. The tubular body 10 is also provided with a knurled circumferential area 10e to facilitate gripping thereof.

In Figs. 8 and 9, a modified form of the invention has been disclosed which distinguishes from the prior form in the construction of the tubular body. According to this form of the invention there is a tubular body 10' which is substantially identical to the tubular body 10 distinguishing merely in the fact that it is devoid of the flared rear end portion 10^d. In this form of the invention the conductor wires 16 come out from the open rear end 10^b of the tubular body.

Moreover a leaf spring 20 is mounted upon the side wall of the tubular body 10' and has an intermediate portion 20^a extending through an opening 20^b formed in the side wall of the tubular body 10'. This intermediate portion 20^a is roughened and engages against a roughened serrated area 21 formed around the core 11. The leaf spring 20 has an offset outer end 20^c which may easily be engaged by one's finger nail so that the leaf spring may be lifted to release the serrations 21. Then the core 11 may be unscrewed or screwed tighter. When the leaf spring 20 is released it will engage the serrations 21 and lock the core 11 from turning.

In other respects this form of the invention is identical to the prior form and the same parts may be recognized by identical reference numerals.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

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

In a plug connector, a tubular body having an open front and a restricted open rear end, a core threadedly engaged into said body through said open front end, contact strips mounted on said core and extended beyond the front end thereof, conductor wires attached to said contact strips and projected through said restricted open rear end, and means on said body engageable with said core for preventing said core from becoming accidentally disengaged from said body, comprising a leaf spring having one end securely attached to the outside face of said body, serrations formed at points around the circumference of said core, said spring having its central portion projected through an opening formed in said body and engageable with said serrations, said spring having its free end bent away from the adjacent face of said body so that one's nail may be engaged therebeneath to flex said spring to disengage its central portion from said serrations.

MARTIN SCHNEIDER.