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S. B. SMITH

1,945,664

SELF LOCKING ELECTRICAL CONNECTER

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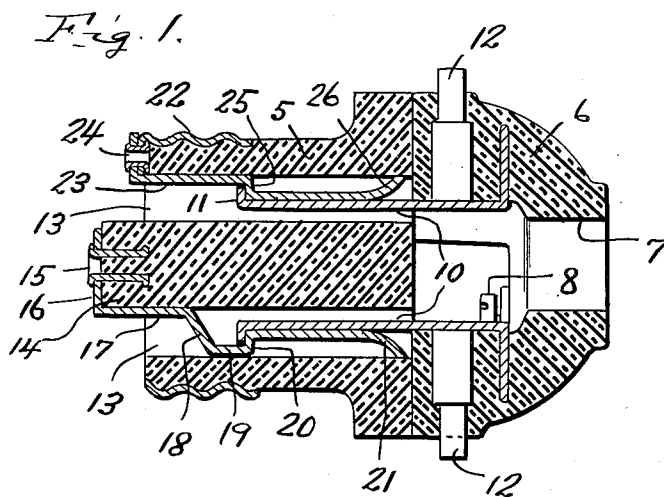
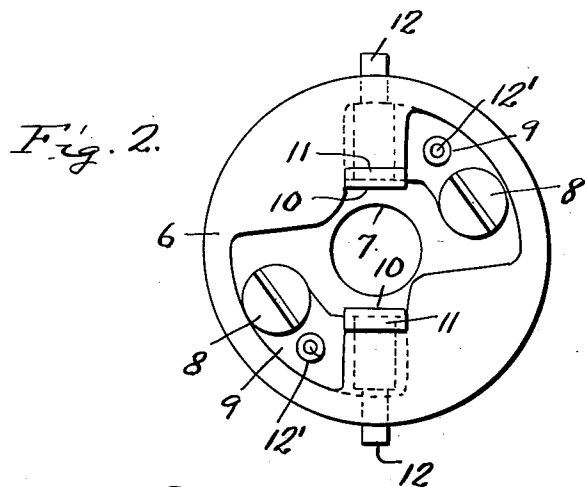
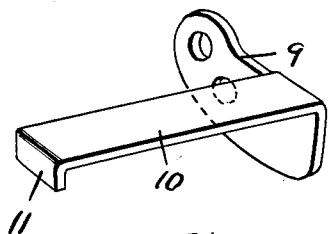


Fig. 3.

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UNITED STATES PATENT OFFICE

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SELF-LOCKING ELECTRICAL CONNECTER

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1 Claim. (Cl. 173—343)

This invention appertains to new and useful improvements in electrical connectors and more particularly to a connector of the plug and socket type.

5 The principal object of the present invention is to provide a plug and socket connector which can be readily detached when desired, but which when assembled will remain intact and not liable to separate readily.

10 Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawing:—

15 Figure 1 represents a longitudinal sectional view through the socket and plug connector.

Fig. 2 represents an inside end elevational view of the plug part of the assembly.

Fig. 3 represents a perspective view of one of the prong units.

20 Referring to the drawing wherein like numerals designate like parts, it can be seen in Fig. 1, that numeral 5 represents the cylindrical body of the socket section while numeral 6 represents the di-electric body of the plug section. The plug section 6 has an opening 7 therethrough in which the conductor wires extend and connect by means of the binding screws 8 to the foot plate 9 of the spring prongs 10. These prongs and their foot plates 9 are constructed of sheet metal stamped out and each is provided at its outer end with an outwardly disposed flange 11. Suitable means 12 is employed for securing each of the foot plates 9 to the di-electric body 6.

25 Slidably disposed in radially extending bores in the body 6 are the push pins 12—12, the inner ends of which abut the inner end portions of the prongs 10 as in the manner substantially shown in Fig. 1.

30 Obviously the prongs 10 extend outwardly from the inner end of the body 6 in the manner clearly shown in Fig. 1.

35 The di-electric body 5 is provided with a pair of openings 13—13 extending therethrough. The core portion 14 of the body 5 protrudes at its outer end and has there located a contact 15 which serves to anchor the offset end portion 16 of the conductor strip 17 to the outer end of this core portion 17. The conductor strip has an offset portion 18 forming a trough 19 and defining a shoulder 20, the same being provided with an extension having a curved end portion 21 over which the flanged end of one of the prongs 10 can easily ride in its movement to reach the shoulder 20, behind which it springs when the bodies 5 and 6 are brought snugly together.

40 Numeral 22 represents a threaded formed jacket

of conductive material suitably secured to the outer end portion of the body 5 and to this is secured the conductor strip 23 by a suitable securing member 24. This strip 23 is formed at its intermediate portion and at a point within one of the openings 13 to define a shoulder 25. The strip 23 beyond this shoulder 25 is extended and bent in a curved manner outwardly as at 26 to facilitate engagement of the other spring prong 10 against the same, so that the prong will be under tension until its flange 11 springs behind the corresponding shoulder 25.

It can now be seen, that in assembling the separated connector sections, the prongs are placed with their flanges 11 against the curved portions 21 and 26 of the conductor strips 17 and 23 respectively and by exerting pressure, the body 6 can be forced toward the body 5 to the end that the flanges 11 will engage behind the shoulders 20 and 25 aforementioned.

When it is desired that the sections be separated, contraction of the prongs by the push pins 12—12 will result in the disengagement of the flanges 11 from the shoulders 20—25 so that the prongs 10 can be quickly removed from the socket section.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having thus described my invention, what I claim as new is:—

45 A connector of the character described comprising a socket member, a plug member, said plug member being provided with a pair of prongs each having a laterally disposed flange thereon, said socket section being provided with contact members therein, each of said contact members being provided with a shoulder, said flanges of the prongs being adapted to engage behind the shoulders of the said contacts, each of the said contacts being provided with a curved extension against which the said flanges can ride to tension the said prongs preparatory to engage behind the shoulders of said contacts.

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