

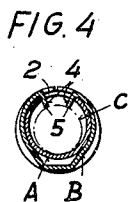
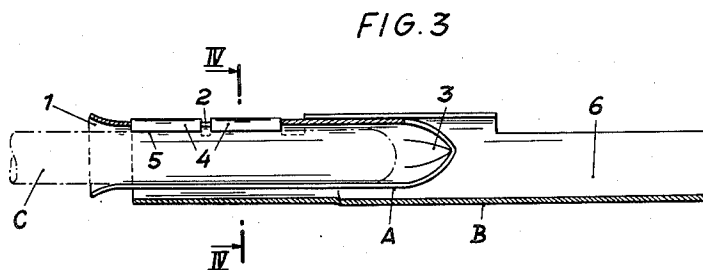
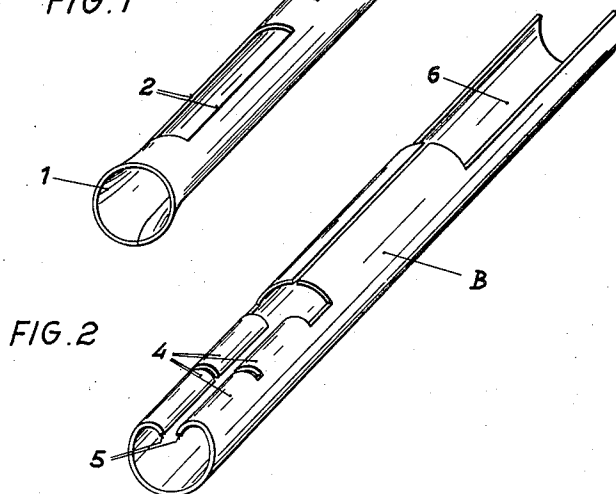
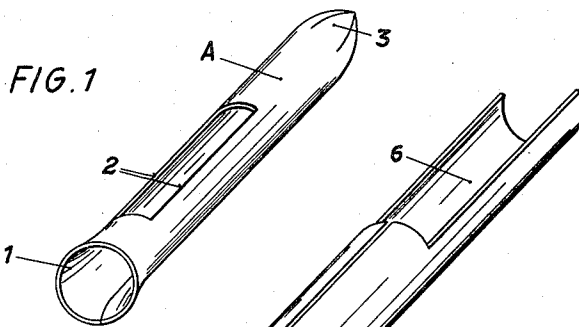
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ELECTRICAL PLUG CONNECTION

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2,866,174

ELECTRICAL PLUG CONNECTION

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1 Claim. (Cl. 339—262)

This invention relates to electrical plug connections, in which the plug socket is provided with resilient lugs, whose end edges form the actual contacting members cooperating with the plug.

It has been recognized already that a perfect contact cannot be achieved in electrical plug connections even when a correspondingly high contact pressure is effective. This is primarily due to the fact that the insertion of the plug does not cause an automatic cleaning of the contacting surfaces from oxidation but the oxide layer is actually forced upon the surface by the high contact pressure. In a known construction that drawback is avoided because a flat plug while being inserted is gripped on two opposite surfaces by resilient parts, as by pincers. In that manner each insertion of the plug involves a scraping effect, whereby any oxide deposits are removed. Owing to its space requirement, however, that known construction is not suitable for incorporation in small manifold plugs and permits only of the use of flat knife-edge contacts.

It is an object of the invention to provide an electrical plug connection, which is distinguished by simplicity in manufacture and small space requirement and can be used with round plugs. The electrical plug connection according to the invention is essentially characterized in that the contact socket, formed at one end with a soldering tag, has inserted therein from the other end a liner whose inside diameter corresponds substantially to the diameter of the plug and whose peripheral wall has an opening through which the resilient lugs of the plug socket extend inwardly.

An illustrative embodiment of the invention is shown in the drawing, in which Figs. 1 and 2 are perspective views showing respectively the liner and the contact socket and Figs. 3 and 4 respectively are a longitudinal sectional view and a transverse sectional view taken on line IV—IV of Fig. 3 showing the assembly of the liner in the contact socket.

The liner A shown in Fig. 1 is made of sheet metal or turned from solid material and has at one end a flared

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mouth 1 to facilitate the insertion of the pin-type plug, not shown in this Figure. The cylindrical portion of the liner has an opening 2, through which the resilient lugs 4 of the contact socket extend inwardly. The other end of the liner has a closed bottom portion 3, which forms a stop for the flowing solder while the connection leads are being soldered to the contact socket.

Fig. 2 shows the actual contact socket B, which can also be made in one operation of sheet metal. It is integrally formed at one end with one or several resilient lugs 4, whose radially inwardly facing end edges 5 scrape on the plug as the same is introduced so that a safe contact is ensured. The other end of the contact socket is cut open somewhat above the center plane and forms approximately an open semicylinder 6, which constitutes a soldering tag formed integrally with the socket, to facilitate the soldering of the connection leads.

The assembly of the contact socket and liner is shown in Figs. 3 and 4, wherein the plug is indicated with dash-and-dot lines by C.

Compared to known constructions the construction according to the invention has the advantage that the contact socket forms the resilient lugs as well as the soldering tag whereas the liner has no electrical but only mechanical functions. This ensures a better electrical connection between the contact socket and the cable connected thereto, compared to a construction in which the liner or guide socket contains also the soldering tag so that the electrical connection between the resilient lugs and the soldering tag is established only by the contact between the two sockets.

I claim:

A socket assembly for an electrical plug connection, comprising a contact socket integrally formed at one end with a soldering tag, and a plug guide liner inserted in said contact socket and formed with a peripheral opening, said contact socket being integrally formed with resilient lugs extending inwardly through said opening, said liner initially having a clearance fit in said socket and being urged into a driving fit in said socket when a plug having an outside diameter slightly less than the inside diameter of said liner is inserted in the latter and engaged by said resilient lugs.

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