

[54] **ELECTRICAL JACK PLUGS**
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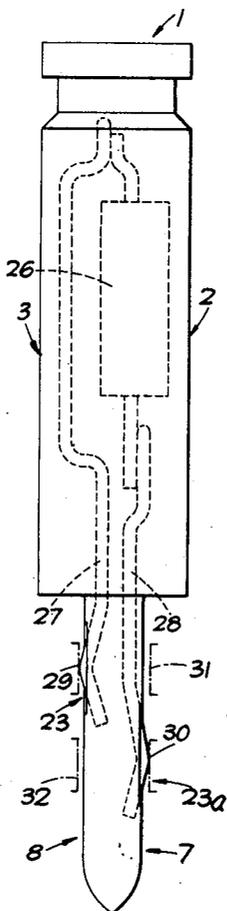
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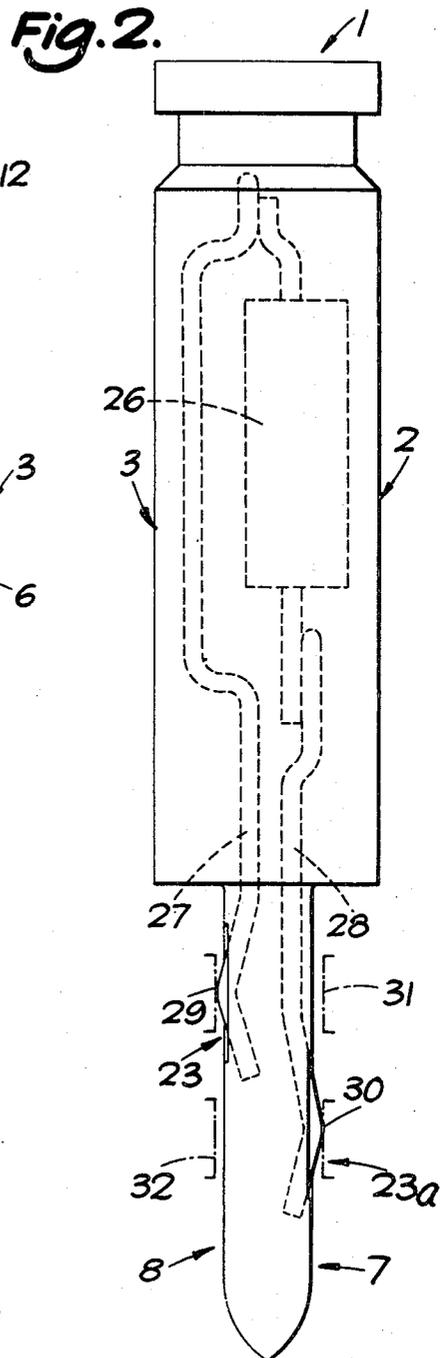
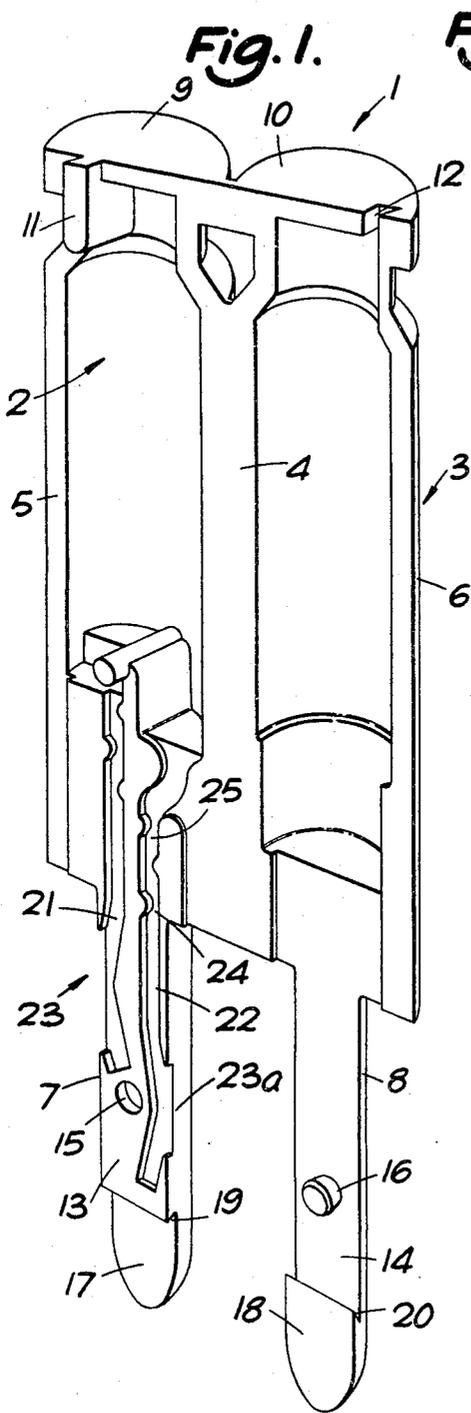
[57] **ABSTRACT**
 A jack plug is integrally formed and comprises parts which are longitudinally hinged and releasably lock together to form a hollow body, for enclosing an electrical component, and a probe which has passageways for electrical members extending from the component; and the passageways each have an exterior aperture.

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 [51] **Int. Cl.H01r 13/66**
 [58] **Field of Search339/19, 59, 147, 176 P, 183, 339/208, 210, 206, 182**

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1 Claim, 2 Drawing Figures





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ELECTRICAL JACK PLUGS

This invention relates to electrical jack plugs. Jack plugs are, as is known, often used to provide electrical connection between two spaced apart, aligned electrical contacts, usually tubular or bussed contacts. Usually the contacts are in respective superposed arrays of contacts. The jack plug is often adapted to contain an electrical component such as a diode, which is connected between the two spaced contacts when the jack plug is inserted through the contacts.

Known jack plugs tend to be complex in construction and not to allow simple manufacture or simple exchange of the enclosed component once made. The present invention concerns a jack plug which is simply constructed and which enables easy exchange of an enclosed component.

According to the invention a jack plug is integrally formed and comprises parts which are longitudinally hinged and releasably lock together to form a hollow body, for enclosing an electrical component, and a probe which has passageways for electrical members extending from the component; and the passageways each have an exterior aperture.

Preferably there are at least two passageways and the external aperture of one passageway is spaced apart along the probe from the aperture of another passageway.

A jack plug according to the invention can easily be moulded in one piece, preferably from polypropylene.

The apertures in the passageways are provided so that the electrically conductive members can protrude from the probe and resiliently engage respective spaced apart sockets.

Reference will be made hereinafter to the accompanying drawings, in which:

FIG. 1 is a perspective view of one embodiment of open jack plug according to the invention; and

FIG. 2 illustrates the jack plug in use.

The drawings illustrate a jack plug 1 which comprises two halves 2 and 3 moulded integrally from an insulating flexible material such as, preferably, propylene. The parts are joined by a thin web 4 which acts as a hinge extending along the main bodies 5 and 6 of the halves 2 and 3. A half-spigot 7 extends from and in line with the main body 5 whereas a complementary half-spigot 8 extends from and in line with the main body 6.

The main bodies 5 and 6 form two halves of a hollow, generally cylindrical body when the halves 2 and 3 are closed together. The bodies 5 and 6 each have a semi-circular cap, 9 and 10 respectively; a lug 11 projects from the flat side of the cap 9 and a recess 12 for receiving the lug 11 is provided in the flat side of the cap 10.

The half-spigots 7 and 8 have flat, abutting inner faces 13 and 14 respectively. A circular tapered recess 15 is formed in the face 13 whereas a complementary, undercut knob 16 is formed on the face 14. The half-

spigots terminate in nose portions 17 and 18, which have flat inner faces, separated from the faces 13 and 14 by an undercut step 19 and a complementary undercut step 20 respectively. The lug 11 and recess 12, the recess 15 and knob 16 and the steps 19 and 20 all constitute members by which the halves 2 and 3 lock themselves together: the locking is releasable by hand owing to the inherent flexibility of the material, polypropylene, of the plug 1.

In the face 13 are formed channels 21 and 22 which are closed by the surface 14 to constitute passageways in and along the probe formed by the half-spigots 7 and 8. The channels, and hence the passageways, extend from the main body of the plug down most of the length of the probe. On one side of the half-spigot 7 the passageway 21 has an external aperture 23 at the point of a bend in the passageway. Further along the half-spigot and at the other side thereof the channel 22 has an external aperture 23a at the point of a bend in the channel. The channels 21 and 22 are not straight and at least the channel 22 has additional bends 24 and 25 in it.

FIG. 2 shows the jack plug closed, containing an electrical component 26. The component may be an active or passive component, a miniature circuit or even a short-circuit lead. In the present example the component, which is located in the main, hollow, body of the plug 1 is connected to electrically conductive members 27 and 28 which are disposed each in one of the passageways in the probe constituted by the parts 7 and 8. Owing to the formation of the apertures at the points of bends in the passageways a bend 29 and 30 in each member is exposed and provides an electrical contact engaging the inside surface of one of two aligned, spaced cylindrical contacts 31 and 32. These latter contacts would normally be in superposed arrays of contacts.

I claim:

1. An electrical jack plug which is integrally formed from insulating flexible material and comprises two parts which are longitudinally hinged and releasably lock together to form a hollow body for enclosing an electrical component and probe which has passageways for electrical members extending from the component, the passageways each having an external aperture located between the ends of the respective passageway wherein the probe is constituted by portions which have abutting surfaces and the said passages formed by channels in one surface and closed by the other surface, and the said parts have abutting surfaces provided with complementary locking members, and an electrical component comprising a body and electrically conductive members extending therefrom, said electrically conductive members extending from the body of the component down said passageways and protruding from the said apertures.

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