

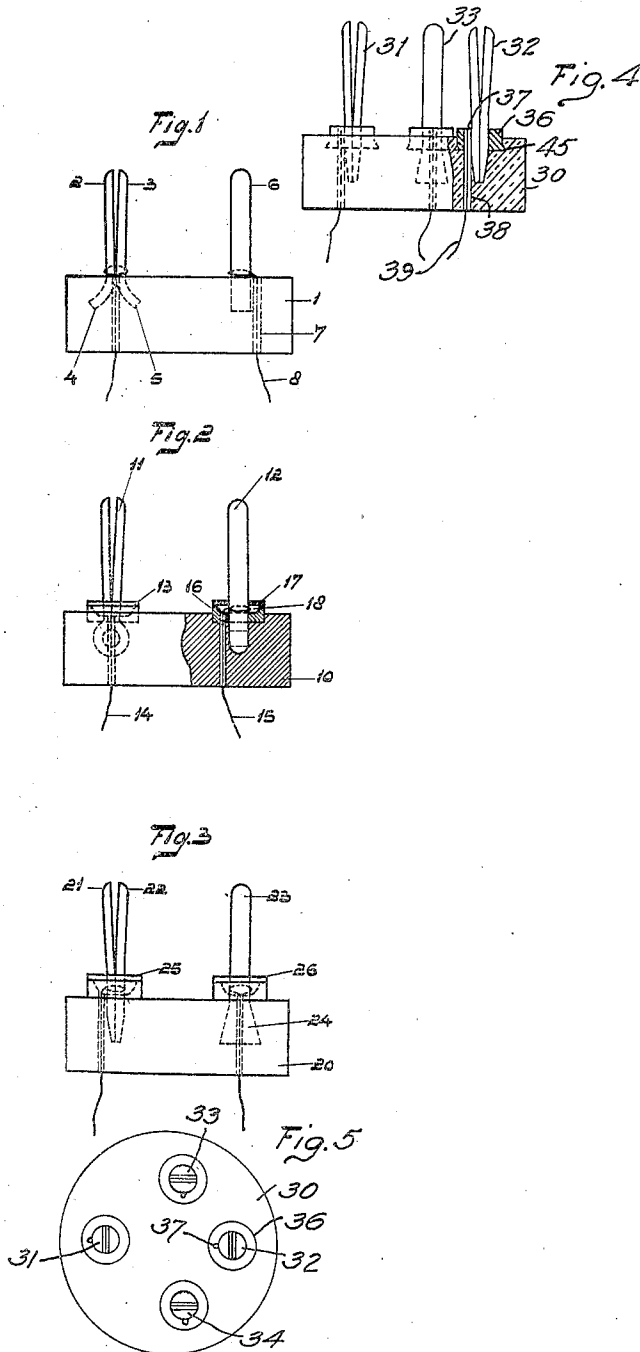
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CONTACT PLUG

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CONTACT PLUG

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As a rule the contact pins of pin-plugs are shaped as metal pegs with a circular cross-section and are provided with a saw-notch extending over a certain length of the peg and disposed along the centre of the peg.

The manufacture of such contact pins has the disadvantage that it is difficult to dispose the saw-notch exactly along the centre.

Furthermore the production of the saw-notch entails loss of material and the contact-pins often break off at the end of the saw-notch which has sharp angles.

The invention has for its particular object to improve the construction of contact-pins and their attachment in the insulating material.

According to the invention the contact-pins consist of two or more resilient parts disposed against each other in the insulating material.

In a practical construction the two halves may have a semi-circular cross-section, their flat sides being arranged against each other; they may be disposed in the insulating material separately from each other in various ways. Those ends of the halves which are lying within the insulating material may be united, for example by shaping the aggregate of the contact-pin as a split-pin, the bent end of which is secured in the insulating material.

For fixing the leading-in wire to a contact-pin a metal member may be disposed around the contact-pin adjacent that side of the insulating material from which the contact pins extend, and the leading-in wire for the said contact-pins may be led through a hole in the insulating material and a corresponding aperture in the metal member, the leading-in wire being secured to the latter by soldering. The said metal member may consist of an annular metal box disposed around the contact-pin and having the leading-in wire fixed thereto by soldering. The metal member according to the invention may consist of a metal ring to which the leading-in wire may be secured by means of soldering material which fills the aperture through which the wire is led. The said aperture may in this case break through the inner side of the ring.

According to the invention the metal mem-

ber may be embedded in the insulating material.

The accompanying drawing diagrammatically illustrates some constructions embodying the invention. In the said drawing:

Figure 1 is a view of a two-pin plug according to the invention.

Figure 2 is a view partly in section of a pin-plug according to the invention, having differently constructed contact-pins and being provided with metal contact-boxes.

Figure 3 is a view of a third construction embodying the invention which is also provided with contact-boxes.

Figure 4 is a side view, partly in section, of another modified form of pin-plug,

Figure 5, is a plan view of the pin-plug shown in Figure 4.

The construction shown in Figure 4 comprises contact pins 31, 32, 33 and 34, which are executed as the pins shown in Figures 1, 2 and 3, and which are fixed at their ends in insulating material 30. The attachment of the leading-in wire to the contact pins is clearly shown in detail at pin 32.

The pin-plug shown in Figure 1 consists of a bottom 1 of insulating material, in which the contact-pins are secured by pressing around them the insulating material. One contact-pin consists of two halves 2 and 3 having a semi-circular section and being both provided at their lower ends with curved extremities 4 and 5, disposed in the insulating material. The other contact-pin 6 consists also of two halves. A leading-in wire 8 passes through an aperture 7 in the insulating material and is disposed around a contact-pin, to which it may be fixed in any suitable manner, for example by soldering.

In the construction shown in Figure 2 contact-pins 11 and 12 have the shape of split-pins, the eyes of which are embedded in the insulating material. Around the contact-pins are disposed small metal boxes 13 and 16, which serve for the attachment of leading-in wires 14 and 15. As shown in the cross-sectional right half of the figure, a leading-in wire 15 passes through an aperture in the insulating material and through a hole in the bottom of a box 16 to a cavity 18. The wire

is secured by soldering material to the said cavity, and the box is closed by a cover 17. The boxes 13 and 16 are embedded in the insulating material.

5 In the construction shown in Figure 3 the contact-pins 23 are secured in another manner in insulating material 20. The ends of both halves 21 and 22 are flattened, so that these ends are shaped as indicated at 24. In
10 this construction metal contact boxes 25 and 26 are disposed above the insulating material. It is of course obvious that in the first three figures the two contact pins are illustrated as being turned 90° relatively to each other.

15 The construction shown in Figure 4 comprises contact-pins 31, 32, 33 and 34 which are executed as the pins shown in Figure 1, 2 or 3 and which are fixed at their ends in insulating material 30. The attachment of
20 the leading-in wire to the contact-pin is clearly shown in detail at the pin 32. The latter is surrounded by a metal ring 36 which like the pin is composed of brass and is slid over the said pin. The ring has an aperture 37
25 corresponding with a hole 38 in the insulating material. A leading-in wire 39 is led through the said holes and secured to the ring 36 by reason of the hole 37 being filled with soldering material. Subsequent to the
30 fixing operation the leading-in wire is cut above the hole 37 and the soldering material remaining above the hole is preferably removed. For this purpose the upper surface of the ring may be milled off with a cutter,
35 which ensures a very handsome finish so that it is difficult to perceive the attachment of the wire of the ring with the naked eye. The ring 36 is embedded in the insulating material and is provided with a small flange 45 in
40 order to improve its attachment. Obviously the ring may be disposed in the material at a more or less great distance below the surface, for example so that the surface of the insulating material and the surfaces of the
45 rings are at a level.

The position of the contact pins relative to each other is shown in Figure 5. From this figure it is also clear that the hole 37 in the ring 36 is disposed quite closely to the contact-pin 32 so that the inner wall of the ring is broken through. By filling the hole 37
50 with soldering material, the ring, the wire and the pin are rigidly secured to each other and a good electric contact is obtained. The hole
55 37 may be disposed in a somewhat inclined direction so that the inner wall of the ring is broken through at a lower part.

What we claim is:—

60 1. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other, the ends of said parts being embedded in the insulating material and joined together forming a
65 ring at the point of joining.

2. An electric contact plug having con-

tact pins consisting of two or more resilient solid parts disposed against each other, the ends of said parts being embedded in the insulating material and joined together forming a ring at the point of joining, and a
70 metal member disposed around one or more contact pins adjacent that part of the insulating material from which the contact pins extend.

3. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other and embedded at their ends directly into the insulating material, and an annular metal box
80 disposed around one or more of the contact pins.

4. An electric contact plug having contact pins consisting of two or more solid parts disposed against each other, the ends of said parts being embedded in the insulating material and joined together forming a ring at
85 the point of joining, and an annular metal box disposed around each of the contact pins.

5. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other, the ends of said parts being embedded in the insulating material and joined together forming a
90 ring at the point of joining, and a metal ring disposed around the contact pins and embedded in the insulating material.

6. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other, the ends of which are embedded directly into the insulating material, a metal member disposed
100 around one or more contact pins, and a leading-in wire for each of said contact pins led through a hole in the insulating material and a corresponding aperture in the metal member, the leading-in wire being fixed to the
105 latter by soldering.

7. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other and embedded at their ends directly into the insulating material, and a metal ring disposed
110 around each of the contact pins, said ring having an aperture which breaks through the inner wall of the ring, the leading-in wire being fixed to said ring by means of soldering material which fills said aperture.

8. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other, the end of said parts being embedded in the insulating material and joined together forming a
120 ring at the point of joining, a metal box disposed around the contact pins, and a leading-in wire fixed thereto by soldering.

9. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other and embedded at their ends directly into insulat-
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ing material, and a metal box disposed around one or more of the contact pins.

10. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other and embedded at their ends directly into the insulating material, and a metal box disposed around one or more contact pins adjacent that side of the insulating material from which the contact pins extend.

11. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other, the ends of said parts being embedded directly in the insulating material and bound together to form a ring at the point of joining, and a metal ring disposed around one or more of the contact pins.

12. An electric contact plug having contact pins consisting of two or more resilient solid parts disposed against each other and embedded at their ends directly into the insulating material, and a metal box disposed around one or more of the contact pins and embedded in the insulating material.

In testimony whereof we affix our signatures.

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