Nov. 1, 1927. 1,647,355

W. F. HENDRY

CONNECTING DEVICE

Filed Jan. 7, 1924

Fig. 1.

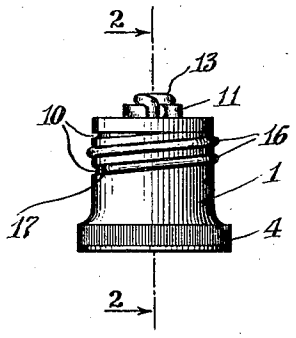


Fig. 2.

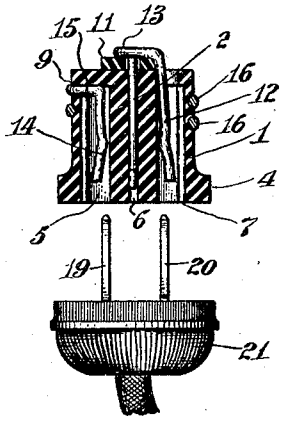


Fig. 3.

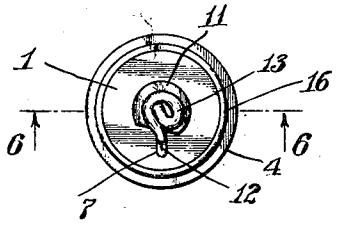


Fig. 4.

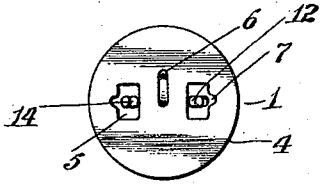


Fig. 5.

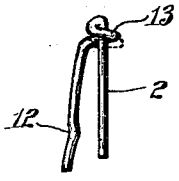


Fig. 6.

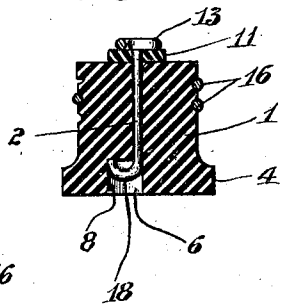
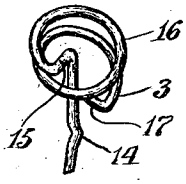


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM F. HENDRY, OF OSSINING, NEW YORK, ASSIGNOR TO MANHATTAN ELECTRICAL SUPPLY COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF MASSACHUSETTS.

CONNECTING DEVICE.

Application filed January 7, 1924. Serial No. 684,736.

This invention relates to connecting devices for electrical conductors, and more particularly to improvements in a base for electrical attachment plugs.

The object of the invention is to provide a connecting device which is composed of a few parts, in which the use of screws, rivets and the like is obviated and a good and preferably continuous connection is had between pairs of contacts of the connecting device.

With this object in view I provide a base for an electrical attachment plug in which a contact spring and the corresponding contact-making element of the base are formed of a single piece of wire, the two wires which are used to be formed into the two contacts and corresponding contact-making surfaces being separated from each other by means of an insulating body. In this manner a base is produced which is composed of only three elements; two springs suitably shaped and an insulating body within and around which they may be attached. The resulting structure will be not only inexpensive of manufacture and sturdy of construction, but will have the highly desirable quality of the presence of a continuous conductor between the spring and contact-making surface, avoiding therefore the necessity of depending on screwed, riveted or soldered joints between these two elements. The proper resiliency of the contact spring forming parts of the wires is insured by the resiliency of the wire itself.

Obviously, the invention may be subject to variations without departing from the spirit thereof. The shaping of the wires and their gauge will vary, depending on the structure of the switch in which they are used. In the following, a preferred embodiment of the invention will be disclosed.

Referring to the drawings, Fig. 1 is a side elevation of a plug base embodying the various features of the present invention;

Fig. 2 is a sectional view along lines 2—2 of Fig. 1, and a side elevation of a cooperating plug cap;

Fig. 3 is a top end view of the base;

Fig. 4 is a bottom end view;

Figs. 5 and 7 are perspective views of the two continuous wires used in the assembly of the plug; and

Fig. 6 is a vertical cross section along lines 6—6 of Fig. 3.

The base is composed of three parts, a body of insulating material 1 and two continuous pieces of wire 2 and 3. The body is provided with a knurled crown 4 by means of which it may be grasped, and with three vertical passages 5, 6 and 7, of which the central passage 6 is provided with a recessed portion 8. The passages 6 and 7 traverse the body 1 throughout its length, but the passage 5 terminates slightly below the top of the body in a lateral outlet 9. The upper part of the body 1 is provided with a spiralled groove 10. A central projection 11, provided on top of the body 1, may be either molded of one piece with the body, or provided in the form of a separate disc.

The continuous piece of wire 2 is substantially U-shaped with one of the legs slightly longer and terminating in a corrugated contact-making spring 12. The wire is spiralled around itself at the connecting point of the U, as shown at 13, the full lines indicating the normal position of the wire before assembly. The wire 3 has one of its ends 14 formed into a contact-making spring corresponding to 12, then the wire is bent at substantially right angles at 15 and spiralled around the leg 14, as shown at 16, terminating in an end 17, which is bent substantially radially with respect to the spiral convolutions.

In assembling the base the wire 3 is snapped into place with the end 17 driven into an aperture in the body, the spiral convolutions 16 lying in the spiralled grooves 10, the straight portion 15 projecting through the outlet 9 and the contact spring portion 14 projecting within the passage 5. The wire 2 is then shoved in place with the contact spring piece 12 projecting within passage 7 and the straight portion projecting within passage 6. The spiralled end 13 of the wire 2 is now hammered down into a flat spiral against the disc 11 and the lower end of the wire 2 is bent up at 18 against the recessed portion 8, whereby the wire 2 will be firmly held with respect to the body. Contacts 19 and 20 of the cap 21 may now cooperate with the contact springs 14 and 12 which are constituted by the free and resilient legs of the wires 2 and 3.

What I claim is:

1. In an electrical attachment plug, an insulating body, a vertical passage in said body having a lateral outlet, a spiral groove around said body, a continuous piece of resilient wire one end of which is bent to be driven into said body, the other end formed to be introduced through said outlet in said passage to serve therein as a contact spring, and the intervening portion is spiralled to lie in said groove and serve as a screw-threaded contact-making surface.

2. In an electrical attachment plug, an insulating body, two passages through said body, one of said passages having a recessed portion a resilient wire bent into U-shape with spiral convolutions near the middle portion, one leg of said U being inserted in said one of said passages and curled against the recessed portion, the other leg being inserted in another passage to serve therein as a contact spring, and the convolutions being flattened against the top of the body to serve as a contact-making surface.

3. In an electrical attachment plug, an insulating body having a plurality of passages, a continuous piece of wire constituting one contact spring within a passage, and a screw-threaded contact-making surface around a portion of said body, and a second continuous piece of wire constituting another contact spring within another passage, and a contact-making surface at the end of said body.

In witness whereof, I hereunto subscribe my name this 4th day of January, 1924.

WILLIAM F. HENDRY.