Oct. 4, 1938. T. H. LAMBERT 2,131,856

ELECTRIC PLUG

Filed March 30, 1936

Fig. 1.

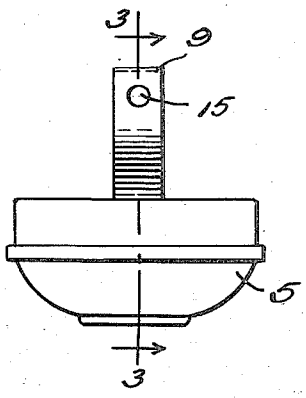


Fig. 2.

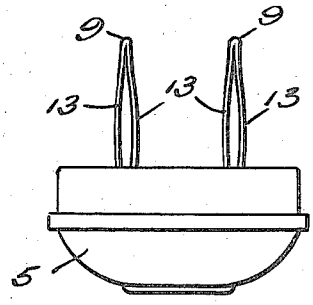


Fig. 3.

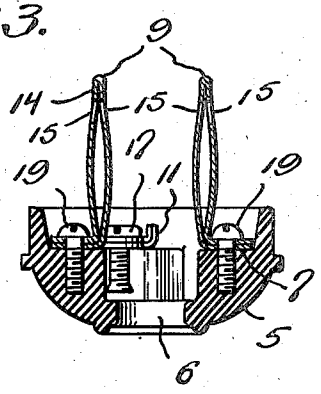


Fig. 4.

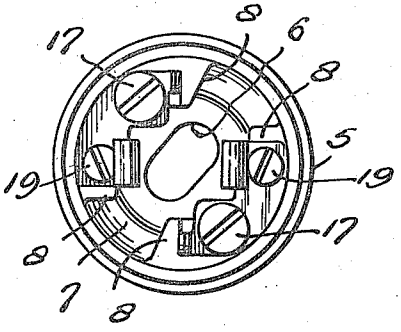


Fig. 5.

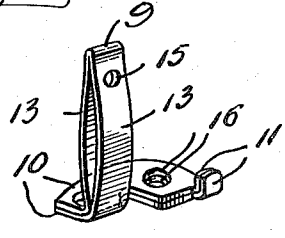
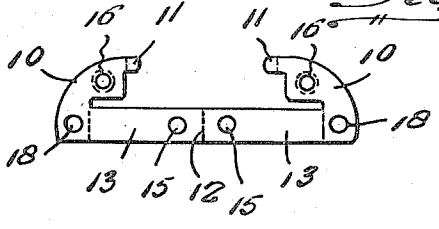


Fig. 6.



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Patented Oct. 4, 1938 2,131,856

UNITED STATES PATENT OFFICE

2,131,856

ELECTRIC PLUG

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Application March 30, 1936, Serial No. 71,769

2 Claims. (Cl. 173—361)

My invention relates to an improved electric plug of the cap type, having prong contacts adapted to removably cooperate with an electric socket.

As is well known, the solid and rigid prong contacts of an ordinary electric plug of the cap type often fit very loosely in the contact containing openings or recesses of a cooperating electric socket, thereby providing poor electrical contact between the prong contacts of the plug and the contacts of the socket, as well as permitting ready accidental separation of the plug from the socket.

The primary object of the present invention, therefore, is to provide an electric plug with improved prong contacts of a resilient nature and of such form as to insure a good electrical contact between the same and the contacts of an electric socket, and to insure such frictional engagement of the bayonet contacts of the plug with the contacts of an electric socket as to prevent ready accidental separation of the plug from the socket.

A more specific object of the present invention is to provide an electric plug with improved prong contacts which, although embodying slightly resilient relatively yieldable portions, are as a whole comparatively stiff so as to effectively resist undesirable bending or distortion and to insure insertion of the prong contacts in the contact containing openings of an electric socket with facility and ease.

Another object of the present invention is to provide an electric plug with improved prong contacts as characterized above, and wherein such contacts are of extremely simple and durable form.

Other objects will appear as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:

Figure 1 is a side elevational view of an electric plug constructed in accordance with the present invention.

Figure 2 is an elevation thereof looking toward the left of Figure 1.

Figure 3 is a vertical section on line 3—3 of Figure 1.

Figure 4 is a plan view as seen looking down on the device of Figures 1 to 3 inclusive.

Figure 5 is a perspective view of one of the prong contacts forming part of the plug shown in Figures 1 to 4 inclusive; and

Figure 6 is a plan view of the blank from which the prong contact of Figure 5 is formed.

Referring more in detail to the drawing, the present electric plug is illustrated as comprising a body or cap member 5 of insulating material provided with a central aperture 6 for the passage therethrough of electrical wires. The body or cap member 5 is provided in its inner end with an annular ledge 7 formed with pairs of spaced lugs 8 which define arcuate seats or recesses on the ledge 7 at opposite sides of the opening 6 in which are fitted and secured the rigid arcuate bases of the two improved prong contacts 9.

The prong contacts 9 are of similar form and construction, and a detailed description of one will suffice for both. As shown, each prong contact 9 is formed of a single strip of slightly resilient but relatively stiff metal constituting a good conductor of electricity, which strip is of elongated form and of uniform width throughout, and is provided at opposite ends with substantially similar arcuate extensions 10 that extend laterally in the same direction from the ends of said strip as shown in Figure 6 and terminate at their free ends in relatively small projecting lugs 11. This strip is return-bent intermediate its ends upon a transverse line 12 so as to provide the prong contact 9 composed of two plies 13 which are outwardly arched longitudinally so as to be normally separated throughout the major portions of their length and therefore capable of yielding inwardly or toward each other. The portions or plies 13 are only slightly arched, and the portions thereof adjacent the fold line 12 or where said portions 13 join together are folded into intimate contact as indicated at 14 so that the prong contact 9 is provided with a relatively stiff or rigid free end or socket-entering portion. Thus, while the prong contact 9 is, as a whole, comparatively stiff or rigid, its plies 13 are resilient and may be caused to forcibly yield or flex toward each other throughout the major portions of their length and particularly at the point where they are most widely separated intermediate their ends. Thus, the prong contact 9 may be forced into the contact containing openings or recesses of an electric plug so as to engage therein with considerable friction, thereby insuring good electrical contact between the prong contact 9 and the contacts of the electric socket, as well as preventing ready accidental separation of the plug member from the electric socket.

It will further be noted that when the strip is folded on the line 12, one arcuate extension 10 will seat flatly upon the other arcuate extension 10 of the blank from which this contact is formed, thereby providing a two-ply base or attaching member for the prong contact which is integral with said contact and comparatively rigid or stiff. A durable construction is thus had wherein the prong contact proper and its base or attaching portion are integrally formed to avoid the necessity of using a separate rigid base or attaching member of solid or one-piece construction. The plies 13 of the prong contacts proper may be provided near their outer ends with the usual openings 15 for interlocking engagement with projections or lugs on the contacts of an electric socket as provided in a usual and well known way. The lugs 11 of the arcuate extensions 10 are directed upwardly, and adjacent these lugs the extensions 10 are provided with registered openings at 16 to receive the usual screw or like member for fastening an electric wire to the base of the prong contact, the wire being confined into engagement with this screw or attaching member by the adjacent lug 11. The wire attaching member is shown in Figures 3 and 4 as a screw 17. Also, the extensions 10 are provided in the ends thereof which connect with the plies 13, with openings 18 which are registered and adapted to receive a screw 19 or other suitable member for firmly fastening or securing the base of the prong contact in its seat or recess on the annular ledge 7, said screw 19 or similar fastening member being threaded into or embedded in the body or cap member 5 as is common practice in the art.

From the foregoing description, it is believed that the construction, as well as the advantages, of the present invention will be readily understood and appreciated by those skilled in the art. Minor changes in the specific construction and details illustrated and described are contemplated, such as fairly fall within the spirit and scope of the invention as claimed.

What I claim as new is:

1. An electric plug of the cap type comprising an insulating body having a central wiring aperture and recessed at one end to provide an annular ledge therein, a pair of prong contacts, each prong contact comprising a centrally return-bent elongated strip of spring metal providing a contact portion having two plies integrally joined at the outer end of said contact portion and slightly arched apart longitudinally throughout the major portions of their length, said strip having arcuate extensions integral with the ends thereof superimposed one upon the other in contacting relation to provide the contact portion with an integral rigid base of arcuate form disposed at right angles to and outwardly of said contact portion, means fastening the bases of said contacts on said ledge of the insulating body at opposite sides of said wiring aperture, and means to connect an electric wire to the base of each prong contact.

2. An electric plug of the cap type comprising an insulating body having a central wiring aperture and recessed at one end to provide an annular ledge therein, a pair of prong contacts, each prong contact comprising a centrally return-bent elongated strip of spring metal providing a contact portion having two plies integrally joined at the outer end of said contact portion and slightly arched apart longitudinally throughout the major portions of their length, said strip having arcuate extensions integral with the ends thereof superimposed one upon the other in contacting relation to provide the contact portion with an integral rigid base of arcuate form disposed at right angles to and outwardly of said contact portion, means fastening the bases of said contacts on said ledge of the insulating body at opposite sides of said wiring aperture, and means to connect an electric wire to the base of each prong contact, the contact portion of each prong contact having its plies folded in intimate contact with each other at the extreme outer end portion thereof to render said outer end portion relatively stiff and compact for readily entering a socket.

THOMAS H. LAMBERT.