Aug. 28, 1934. G. OLSON 1,971,619

ELECTRIC PLUG

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Fig. 1.

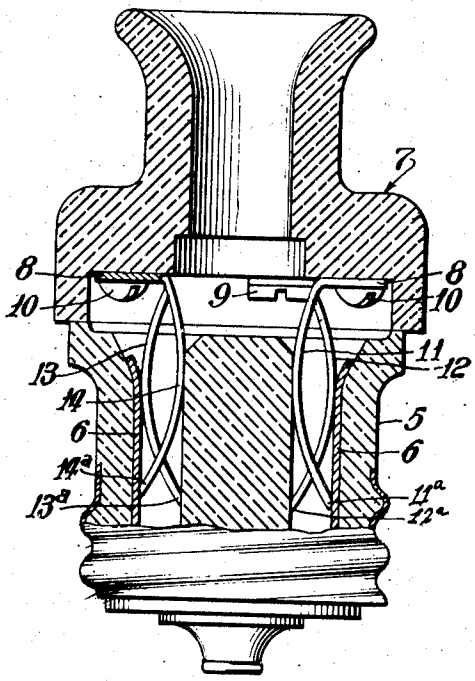


Fig. 2.

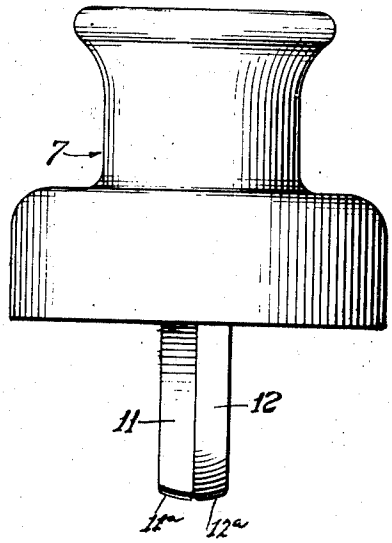
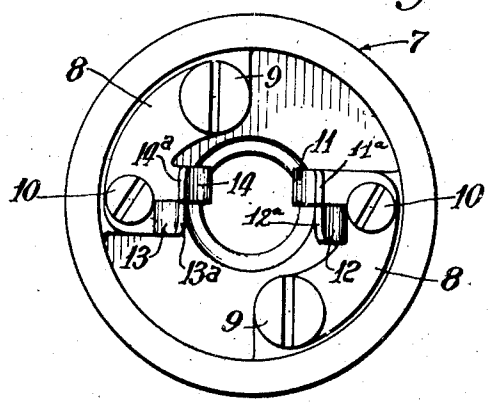


Fig. 3.



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ELECTRIC PLUG

Gunner Olson, Chicago, Ill.

Application December 12, 1931, Serial No. 580,664

6 Claims. (Cl. 173—361)

My invention is an electric plug, designed to removably cooperate with an electric socket.

My main object is to provide an electric plug which secures an immediate contact, and maintains a perfect contact.

Another object is a plug which has a pair of contact members, each of said contact members having two prongs to contact with an electric contact in a socket.

A further object is the provision of a simple plug adapted to operate in any standard type of electrical socket.

A further object is the provision in a plug of contact elements having means wherein each element of the plug forming a contacting means doubles its contact with the socket contact as it proceeds to a complete seating.

Another object is the provision of split contact members whereby the split portions cooperate resiliently to maintain an automatic pressure contact with the socket contact.

A further object is the provision of an electric plug wherein the points of entry of each contact element are aligned normally and form a perfect contact the instant of contact with the metal contacts in the socket and automatically develop a double contact as the plug proceeds to a complete seating.

A further object is the provision in a plug having each contact member so devised that its normal resiliency automatically returns its contact factors to a primary position on release.

An embodiment of my invention is shown in the accompanying drawing, in which:

Fig. 1 is a sectional elevation of my device, in closed combination with a socket.

Fig. 2 is a side view of my plug shown in Fig. 1, without the socket.

Fig. 3 is a bottom view of my plug, as shown in Figs. 1 and 2.

As illustrated, 5 is the body or housing of a socket, but the said socket is no claimed part of my invention. 6 are the contact points in the socket 5, which illustrates a standard type of electrical socket. 7 is a preferred form of plug housing comprising an insulated body with a central aperture for the passage therethrough of electrical wires. There is no claim for this specific form, it being a preferable form; but my invention is not dependent upon the specific form of the plug housing.

In said plug housing 7 is an annular ledge upon which are seated connectors 8, to which ledge they are attached. I provide a pair of connectors or contactors 8 in opposed relation around the central aperture. These contactors 8 are fixedly attached to the housing 7 by attaching members 10, each said contactor 8 having a means 9 for attaching the transmission line terminals to the metal members 8. Projecting from a position substantially at right angles upwardly from the base of each member 8 I provide, in tandem, longitudinally split prongs, the two split prongs of each member 8 curved in opposed relation forming a loop, the said individual prongs adapted to freely pass each other when constrained laterally; the prongs 11 and 12 of one contact member and 13 and 14 of another being aligned at their ends when free, as shown in Fig. 3. The prongs 11 and 12 of one pair and 13 and 14 of the other pair each have a certain amount of resiliency in themselves, also by reason of their relation to the base of each contactor 8.

It will be observed that as the contactor prong ends of each contact member 8—such as 11*a* and 12*a* of one and 13*a* and 14*a* of the other—enter an aperture in a socket they tend immediately to locate themselves at a center of the socket aperture, for instance, as the body of prong 14 strikes the inner wall of the channel it immediately forces prong end 14*a* into contact with the contact element 6 in the socket and any continued straightening of the prong 14 by constriction increases the close impact of the prong end 14*a* on the element 6, while simultaneously the body of 13 striking the socket contact element 6 forces the prong end 13*a* against the wall of the socket; and progressive movement increases and intensifies the contact, thus providing a perfect contact of each of the prongs of a unit contactor 8 with the element 6 in the socket; and as the plug is pushed home to its full seating this double contact becomes more positive and stable. There is a resilient play of the prongs of each unit and at the same time there is a co-active resilient play between the units maintaining a firm, sustained, positive, resilient relation in and to the socket. It will also be plainly observable that as the plug is removed from the socket these yielding opposed loop prongs return to their normal position ready for a subsequent insertion.

I do not mean to limit myself to the forms as shown, except insofar as I am limited by the scope of my claims.

1. An electric plug comprising an insulated housing and a plurality of contact elements, each contact element having a plurality of resilient prongs in tandem, the adjacent prongs being bowed with relation to each other forming a substantial loop.

2. A plug for electrical transmission comprising a housing and contact elements, each contact element consisting of a base with an upstanding portion split longitudinally into two blades each curved in an opposite direction, together forming an elongated loop, their ends normally aligned in tandem when free, each split portion being adapted to have sustained contact with a single electrical contact element.

3. A plug for electrical connection comprising two contact elements seated in an insulated housing, the contact elements each having its contact portion split longitudinally, each adjacent split portion curved oppositely to form substantial loops, their ends aligned in tandem when free, each split portion adapted to have resilient pressure contact with an electric circuit contact member in a socket.

4. An electric plug comprising a plurality of metal contactors seated within an insulated housing and having means of attachment to electrical sources, the projecting portions of each metal contactor being flat and split longitudinally, normally resilient, the ends aligned in tandem when free, the flat longitudinal extent of each split portion being curved in a direction opposed to its adjacent split portion forming a loop and adapted to automatically exert a sustained pressure contact when constricted laterally.

5. An electric plug comprising a housing with a plurality of contact members seated therein and projecting therefrom; the projecting portions of each individual contact member being flat and longitudinally split from the base, the split blades in tandem, the ends of the tandem blades being in alignment when free, the blades of each contact element being curved to form—in combination—the sides of a loop and adapted to co-act when constrained laterally to secure and sustain tensional contact of each blade with a single contact member of a socket.

6. In an electric plug a plurality of contacting members seated within a housing and having their contact portions projecting outwardly therefrom; each of said contact portions being formed from an elongated extension split longitudinally, the split parts in tandem, each split part curved opposite to its adjacent split part, forming a loop and adapted to co-act tensionally when constrained laterally, and be capable of automatically resuming their initial positions on release from the constraint.

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