H. R. SARGENT.
ATTACHMENT PLUG.
APPLICATION FILED JULY 31, 1914.

1,181,803.

Patented May 2, 1916.

Fig. 1.

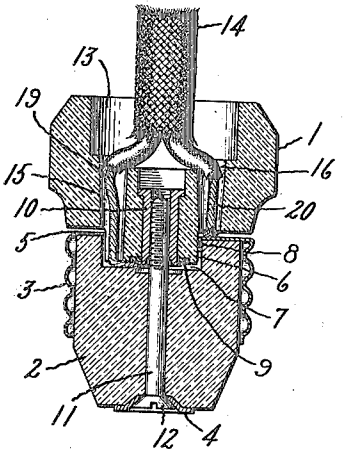


Fig. 3.

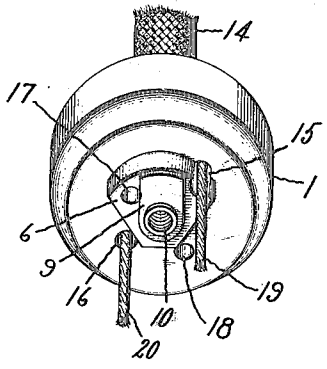


Fig. 4.

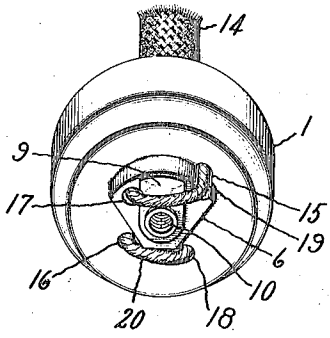
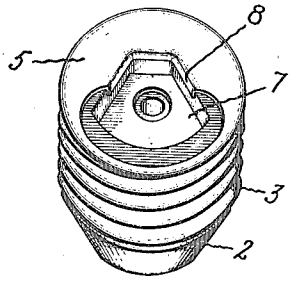


Fig. 2.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT-PLUG.

1,181,803. Specification of Letters Patent. Patented May 2, 1916.

Application filed July 31, 1914. Serial No. 854,269.

To all whom it may concern:

Be it known that I, HOWARD R. SARGENT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Attachment-Plugs, of which the following is a specification.

My invention relates to attachment plugs and the like such as are used for making electric circuit connections to sockets and receptacles of various sorts, and it comprises various novel features and details of construction and combinations and arrangement of parts that can best be presented by the description of a particular device embodying them in the best form at present known to me. Many advantages obtainable in connection with the invention will appear from this description,—such as simplicity, neatness of appearance, ruggedness, ease and cheapness of manufacture and facility of connecting up,—while its scope will be indicated in my claims.

In the accompanying drawing, Figure 1 is a mid-section through a plug constructed in accordance with the invention. Fig. 2 is a tilted view of certain parts of the device detached and separated from the rest. Figs. 3 and 4 are tilted views of other parts, and illustrate the wiring of the device.

Referring first to Fig. 1, it will be seen that the main structure or body of the plug comprises insulating parts 1 and 2 which are separate but are secured together. These parts may be made of porcelain, bisque, fiber, or any suitable insulating compound or material. The plug shown being intended for sockets of the Edison screw type, the electrical parts associated with the body include a screw contact shell 3 around it and a center contact 4 on one end. As shown, the insulating part 2 fits within the contact shell 3, and the latter has at its upper end an inwardly bent flange portion 5 (see Fig. 2) that extends between the parts 1 and 2. As a matter of practical manufacture, the portion 5 of the shell 3 can, of course, be made as a bottom with a portion punched out.

It is obviously necessary that the contact shell 3 should not turn with reference to the insulating part 1 when the plug is being screwed into or out of a socket, and it is much to be preferred that the insulating part 2 should not do so either. While the insulating parts 1 and 2 may be directly or indirectly interlocked against turning in various ways, as shown the part 1 has a truncated sector-shaped projection 6 and the part 2 has a similarly shaped recess 7 in which this projection 6 engages. The edge of the flange 5 in part conforms to the angular side of the projection 6, and along this edge the metal of the flange is turned down at 8 so as to fit in the recess 7 between its sides and the corresponding sides of said projection, and thus the portion 5 of the shell 3 is engaged with each of the insulating parts 1 and 2 in a way that effectually prevents the shell from turning with reference to either of them.

In the insulating part 1 is secured a composite metal part 9 comprising an exposed portion that lies in a depression in the end of the projection 6 and a sleeve portion 10 that lies in a central bore in said part 1 and is secured in place and connected to the exposed portion by being suitably expanded at its ends. The hole or bore of the sleeve piece 10 is threaded, and a screw member 11 with its head 12 in the center contact 4 (which lies in a depression in the lower end of the insulating part 2) extends through the insulating part 2 and engages in the hole of the sleeve 10, thus at once detachably securing the insulating parts together and putting the metal part 9 exposed between them as above described in electrical connection with the center contact 4.

In the upper side of the insulating member 1 is a recess 13 that receives the end of the insulated cord or cable 14, and from the bottom of this recess holes 15 and 16 extend through the part 1 to the abutting surfaces at its lower side. As shown, the hole 15 comes out through the curved edge of the projection 6, while the hole 16 comes out in the main lower surface of the part 1 close to the diagonally opposite corner of the projection 6. In the end of the projection 6 at the opposite side of the exposed metal part 9 from the hole 15 is a hole 17 which extends only part way through the insulating part 1, and in the main lower surface of the part 1 is a similar hole 18 very similarly situated with reference to the hole 16. When the stripped ends of the twisted wire conductors 19 and 20 of the cord 14 have been pushed through the holes 15 and

16,—the insulating parts 1 and 2 having previously been taken apart, of course,—these ends are first bent transversely and then back into the holes 17 and 18 respectively. When the insulating parts 1 and 2 are now assembled and secured together, the ends of the wires 19 and 20 are securely clamped between the parts 1 and 2 in electrical connection with the center contact 11 and the shell 3, the wire 19 lying between the exposed metal part 9 and the surface of the part 2 at the bottom of the recess 7, and the wire 20 lying between the inwardly bent portion 5 of the shell 3 and the abutting surface of the part 1. At the same time the portion 5 of the shell 3 is securely clamped and held. As the abutting surfaces of the insulating parts 1 and 2 between which the ends of the wires 19 and 20 lie are in different planes, the circuits are thoroughly well insulated from one another, especially as the edge of the flange 5 is some distance from the curved side of the projection 6 where the wire 19 lies.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In an attachment plug, the combination of a body comprising insulating parts secured together, a contact shell around said body having an internal flange between abutting surfaces of the parts, a center contact associated with one of said parts, and current leads extending through one of said parts and having their ends clamped between them, one in electrical connection with said center contact and the other with said shell.

2. In an attachment plug, the combination of a body comprising insulating parts secured together, a contact shell around said body having a portion bent inward between abutting surfaces of the insulating parts, a center contact associated with one of said insulating parts and a metal part exposed between them and in electrical connection with said center contact, and current leads extending through one of said insulating parts and having their ends clamped between them in contact respectively with said exposed metal part and with the shell.

3. In an attachment plug, the combination of a body comprising insulating parts secured together and having a plurality of abutting surfaces in different planes, a contact shell around said body having an internal flange between the insulating parts, a center contact associated with one of said insulating parts, and current leads extending through one of said insulating parts and having their ends clamped between abutting surfaces of said parts that are in different planes, one in electrical connection with said center contact and the other with said shell.

4. In an attachment plug, the combination of a body comprising insulating parts secured together, a contact shell and a center contact associated with them, and current leads extending through one of said parts and having their ends bent backward into separate holes in said part, portions of said leads being clamped between the parts in electrical connection with said shell and with said center contact respectively.

5. In an attachment plug, the combination of a body comprising insulating parts detachably secured together, a contact shell around said body having a portion bent inward between the insulating parts, a center contact associated with one of said insulating parts, a metal part associated with the other of said insulating parts exposed between them and in electrical connection with said center contact, and current leads extending through the insulating part with which said exposed part is associated and having their ends bent transversely and clamped respectively between said latter insulating part and the inwardly bent portion of the shell and between said exposed metal part and the insulating part with which the center contact is associated.

6. In an attachment plug, the combination of a body comprising insulating parts detachably secured together, said parts having on their abutting faces respectively a projection and a recess which by their engagement the one in the other keep the parts from turning with reference to one another, a screw shell around the insulating part with the recess having between the insulating parts an internal flange engaged with one of them so as to prevent said shell from turning with reference to them, a center contact associated with the insulating part having the recess, a metal part exposed between the end of the projection and the bottom of the recess and in electrical connection with said center contact, and current leads extending through the insulating part with the projection and having their ends bent and clamped against said inwardly bent portion of the screw shell and said exposed metal part respectively.

7. In an attachment plug, the combination of a body comprising insulating parts interlocked so that they cannot turn with reference to one another, a screw shell around one of said insulating parts having between them an inwardly bent portion so engaged that said shell cannot turn with reference to the other insulating part, a center contact associated with the insulating part around which is the contact shell, a metal part secured to the other insulating part and having a threaded hole and a portion exposed between the insulating parts, current leads extending through said other insulating part and having their ends bent so as to lie against said exposed portion of said metal part and against said inwardly bent portion

of the shell respectively, and a screw member extending through said center contact and the insulating part with which it is associated and engaged in the hole in said metal part so as to secure the insulating parts together and clamp the ends of the leads between them.

In witness whereof, I have hereunto set my hand this 29th day of July, 1914.

HOWARD R. SARGENT.

Witnesses:
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HELEN ORFORD.