No. 795,067. PATENTED JULY 18, 1905.

H. R. SARGENT.

PLUG AND RECEPTACLE.

APPLICATION FILED AUG. 17, 1903.

Fig. 1.

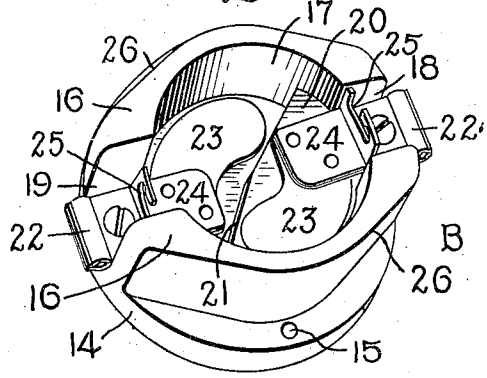


Fig. 2.

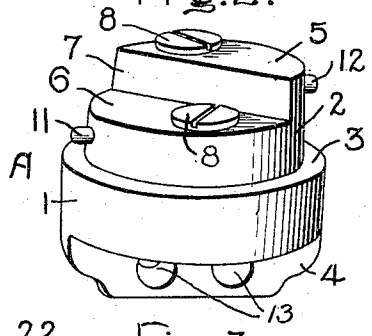
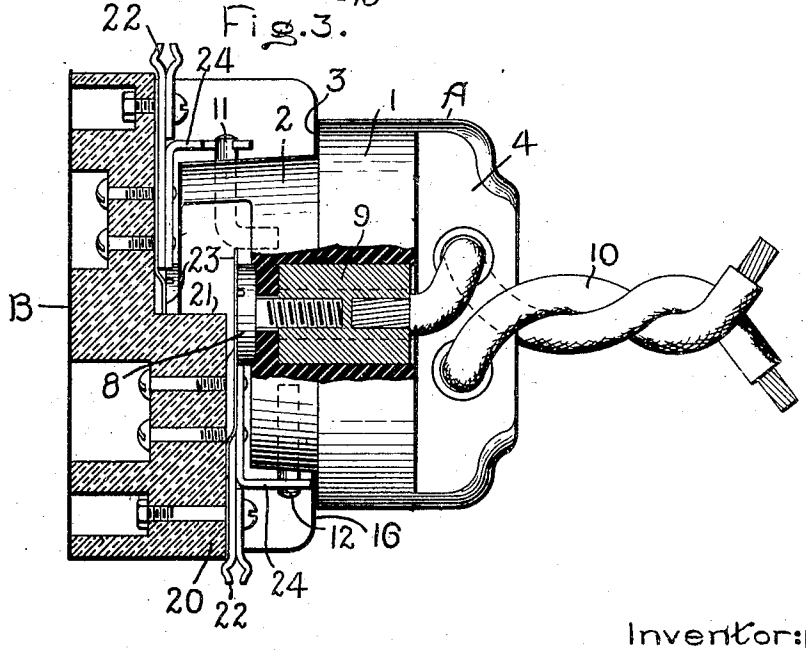


Fig. 3.



Witnesses:

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Inventor:

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No. 795,067. Patented July 18, 1905.

UNITED STATES PATENT OFFICE.

HOWARD R. SARGENT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

PLUG AND RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 795,067, dated July 18, 1905.

Application filed August 17, 1903. Serial No. 169,678.

To all whom it may concern:

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

The present invention relates to branch cut-out devices for use on systems of electrical distribution, and has for its object to provide a compact and highly-efficient attaching-plug and receptacle which shall be particularly adapted to withstand the rough and abusive treatment to which devices of this nature are subjected when used on power-circuits in machine-shops and similar places.

The invention will be readily understood by reference to the following description and the accompanying drawings, forming a part of this specification, in which—

Figures 1 and 2 are perspective views of a receptacle and plug, respectively, embodying one form of my invention; and Fig. 3 is an axial section of the receptacle and side elevation of the plug shown in operative relation.

The base of the plug A is made of tough insulating compound and comprises a cylindrical body portion 1, provided on its inner end with a frusto-conical contact-carrying projection 2 and a shoulder 3 and on its outer end with a parallel-sided handle part 4. The inner end of the frusto-conical projection is formed by two stepped planes 5 and 6 at right angles to the axis of the plug and joined by a longitudinal diametrical plane 7, and in each of the stepped planes 5 and 6 is provided a metallic contact 8, formed by the head of a screw, which extends into the plug parallel to its axis and engages a nut 9, located therein, and to which one of the branch conductors 10 is soldered. Two short metallic bars 11 and 12 are molded into diametrically opposite sides of the projection 2 at suitable distances from the respective planes 5 and 6, with their outer ends projecting beyond the conical surface to form lugs thereon. The parallel-sided handle part 4 is located at right angles to the plane of the two contacts 8, so that a conductor 10 enters the plug on each side thereof, and is provided with two transverse apertures 13, through which the conductors are passed and then bent, so that stresses between conductors and the plug will be received by the handle part 4 and the soldered joints relieved thereof.

The receptacle B, which is adapted to be secured in permanent position on some fixed part, and therefore not liable to the severe usage to which the plug is subjected, may be made of porcelain and consists of a circular disk 14, with screw-holes 15 for securing it in place, and side walls 16 extending entirely across its face about a circular cavity 17, with openings 18 and 19 between their ends. The bottom of the cavity 17 has a raised portion 20 in a plane removed from the plane of the disk 14 a distance equal to the space between planes 5 and 6 of the plug A and having its step-face 21 in two longitudinal radial planes at an obtuse angle to each other. Extending through the openings 18 and 19 and secured by suitable screws to the respective surfaces of the cavity are two binding-clips 22 for engaging the main conductor-wires, and to their inner ends are connected flat spring-contacts 23 and angle-irons 24, provided with bayonet-slots 25 in their outwardly-projecting ends. As shown in Fig. 3, the angle-irons 24, one member of each of the binding-clips 22, and the spring-contacts 23 are secured in fixed relation with respect to each other and to the disk 14 by pairs of screws passing through the latter and engaging tapped holes in the angle-irons 24. The bayonet-slots 25 are so located that when the plug A is inserted and given a slight turn they will engage the bar projections 11 and 12 and hold the plug securely in place therein with its contacts 8 in engagement with the respective spring-contacts 23 of the receptacle B. The walls 16 have their outer edges 26 in a plane parallel to the face of the disk 14 and are so located with respect to the shoulder 3 of the plug A when the latter is in operative position that when a transverse moment of force is exerted upon the plug they will abut against the shoulders and prevent displacement.

By the arrangement of the respective contact-carrying surfaces of the plug and recep-

tacle in different planes the parts are effectually prevented from being connected in other than the proper relation and as a consequence all liability of injury to the apparatus connected thereto from reversal of polarity is protected against.

I do not desire to be restricted to the particular form or construction of parts shown and described herein, for it is apparent that they may be changed and modified without departing from my invention.

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

1. An attaching-plug comprising a base of insulating material having at one end two surfaces on opposite sides of its axis in parallel transverse planes, metallic contacts secured to said surfaces, and electrical conducting means extending through said base to said contacts.

2. An attaching-plug comprising a base of insulating material having at one end two equal surfaces on opposite sides of its axis in parallel transverse planes, a metallic contact secured to each of said surfaces, and electrical conductors extending from said contacts longitudinally through said base.

3. An attaching-plug comprising a base of insulating material having at one end surfaces on opposite sides of its axis in parallel transverse planes and at the other end a handle part provided with transverse apertures, metallic contacts secured to said surfaces, and electrical conducting means extending from said contacts longitudinally through said base.

4. An attaching-plug comprising a base of insulating material having a cylindrical body part, a frusto-conical projection and a shoulder at one end of said body part and a handle at the other end of said body part, metallic contacts secured in parallel transverse planes to said frusto-conical projection, and electric connections extending through the body part and the frusto-conical projection to said contacts.

5. The combination of a receptacle having a cavity with two bottom surfaces on opposite sides of its axis in parallel transverse planes, metallic contacts secured to said surfaces, a plug having one end adapted to enter said cavity and provided with two surfaces on opposite sides of its axis in parallel transverse planes, metallic contacts secured to said surfaces, and means for holding the plug and receptacle in engagement.

6. The combination of a receptacle having a cavity with two bottom surfaces on opposite sides of its axis located in different transverse planes, a metal contact secured to each of said surfaces and connected to a binding-post, bayonet-slots formed in some part of said receptacle, an attaching-plug having a part adapted to enter said cavity and provided with end surfaces corresponding to the bottom surfaces of said cavity, metallic contacts secured to the end surfaces, and lugs or projections extending from the sides of said plug and adapted to engage said slots in the receptacle.

7. A receptacle comprising an insulating-base having openings in opposite walls thereof, two spring-contacts located in parallel transverse planes in said base, metallic binding-clips secured to said contacts and extending through the openings in the walls of the base, and angle-irons provided with bayonet-slots and secured to said base.

In witness whereof I have hereunto set my hand this 14th day of August, 1903.

HOWARD R. SARGENT.

Witnesses:
BENJAMIN B. HULL,
HELEN ORFORD.