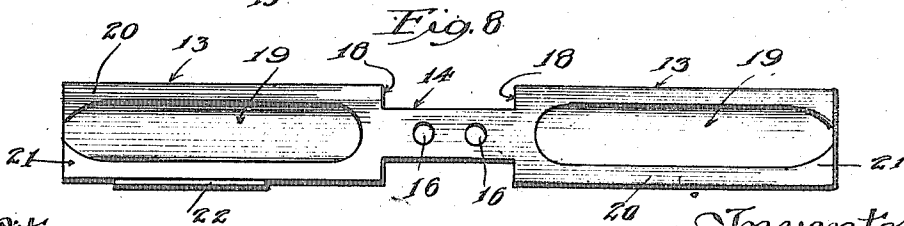
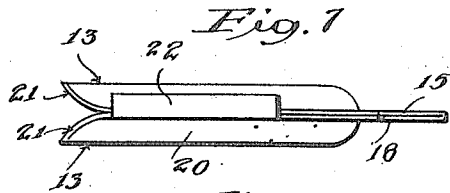
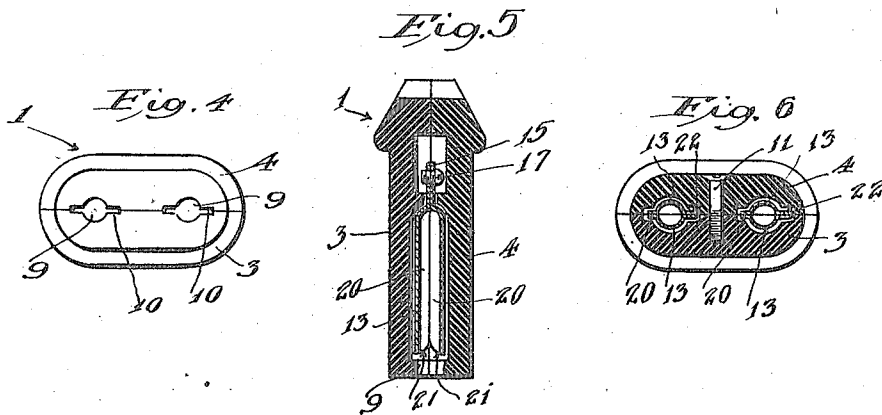
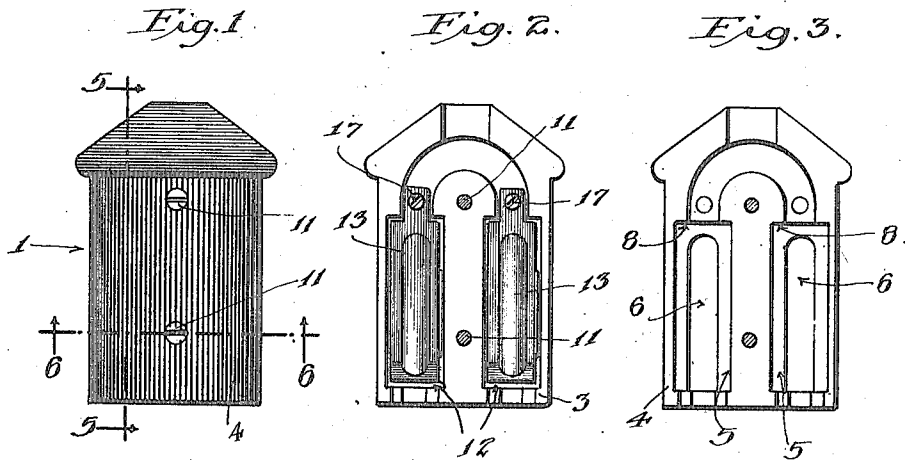


C. E. TREAT.
ELECTRICAL ATTACHMENT PLUG.
APPLICATION FILED MAY 12, 1915.

1,188,024.

Patented June 20, 1916.



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UNITED STATES PATENT OFFICE.

CLIFFORD E. TREAT, OF SANTA ANA, CALIFORNIA.

ELECTRICAL ATTACHMENT-PLUG.

1,188,024.

Specification of Letters Patent.

Patented June 20, 1916.

Application filed May 12, 1915. Serial No. 27,563.

To all whom it may concern:

Be it known that I, CLIFFORD E. TREAT, a citizen of the United States, residing at Santa Ana, in the county of Orange and State of California, have invented a new and useful Electrical Attachment-Plug, of which the following is a specification.

This invention relates to electrical attachment plugs of the type which are carried at the ends of flexible leads, and resides in the provision of a plug which is capable of cooperation with round or flat contact members and includes two socket contact members which are held within a body of insulating material in such manner that sufficient relative movement of the members is permitted to allow for their reception of plug or contact members which are deranged or otherwise moved from their true positions.

Another object is to provide socket contact members, each of which consists of two spaced resilient contact jaws adapted to accommodate plugs of various sizes and which clamp said plugs in contacting position.

A still further object is to generally improve and simplify the construction of plugs of the character described so as to render them inexpensive to manufacture, efficient, and more commercially desirable.

The invention consists in certain novel features of construction and combinations, and arrangement of parts as will be more fully hereinafter described and pointed out in the claims.

In the drawings: Figure 1 is a top plan view of the plug assembled; Fig. 2 is a top plan view of one of the halves of the plug body showing the socket members therein; Fig. 3 is a top plan view of the other of the halves of the socket body; Fig. 4 is a front end elevation of the plug; Fig. 5 is a vertical sectional view taken on line 5—5, of Fig. 1; Fig. 6 is a cross sectional view taken on line 6—6, of Fig. 1; Fig. 7 is a side elevation of one of the socket members; and Fig. 8 is a top plan view of one of the socket members, before it is bent into assembled position.

The plug comprises an elongated preferably substantially ovicular body 1 having a laterally enlarged head on one end and consists of halves 3 and 4. Each of the halves has formed in one face thereof a pair of spaced substantially rectangular longitudinal recesses 5, each of which is centrally longitudinally concaved as at 6; while the remaining bottom face thereof is flat. A Y-

shaped lead wire receiving recess 7 is formed in the head portion of each of the halves and the divergent portions of the Y-shaped recesses communicate with the longitudinal recesses. At the points of communication the recesses 7 are of smaller diameter than are the recesses 5, thus defining shoulders 8. The recesses open at the free ends of the halves 3 and 4 and are reduced at these points and shaped to provide substantially circular openings 9 having lateral diametrically opposed recesses 10 communicating therewith. This arrangement is provided when the halves are joined together and in this connection it will be noted that screws or other fastening elements 11 are inserted through the halves to secure them together. The openings 9 in being smaller than the recesses 5 define shoulders 12.

Mounted within each of the recesses 5 of one of the halves is a pair of socket contact members comprising longitudinally spaced resilient contact jaws 13. The socket members are smaller than the openings provided by the recesses 5 when the halves are secured together and are of slightly less length than the recesses so as to be permitted relative movement for the purpose of receiving plugs of varying widths and which are out of their true position. The shoulders 12 and 8 prevent the socket members being pulled out of the plug body.

Each of the socket members is formed from a single plate or strip of suitable metal and the jaws 13 are joined at their inner ends by a reduced strip 14, which strip is bent along its transverse center line so as to bring the jaws in superposed spaced relation to one another. The strip 14 forms a projection 15 which is provided with a central aperture 16, and one of the leads is secured in contact with the projection 15 by means of fastening elements or screws 17 mounted within the opening 16. The strip 14 after it is bent upon itself or doubled, as shown in Figs. 5 and 7, extends into the ends of the divergent portions of the Y-shaped recesses 7 and is clamped by shoulders carried by the halves, as shown clearly in Fig. 5. Upon either side of the projection 15 the jaws 13 project and provide shoulders 18 which cooperate with the shoulders 8. The jaws themselves are in general of substantially rectangular outline and centrally are formed with longitudinal concavities 19. These concavities are preferably substantially semi-circular in cross section

and are formed by striking the metal outwardly from the free ends of the jaws to points near but spaced from the inner ends of the jaws and the concavities in being of less width than the jaws provide flat portions 20 on either side thereof. The free ends of the jaws are turned away from one another or diverge at 21 to form large entrance openings for the plugs or contact members which are to be positioned between the jaws. A guide flange 22 is struck up from the lower jaw of each pair thereof and slidably engages the side of the upper jaw of each pair. This guide flange is near the free ends of the jaws and acts to guide flat contacts, not shown, when they are inserted between the jaws.

The outer sides of the portions 19 are convex and loosely engage in the concavities formed in the recesses 5 and the openings 9 are larger than the opening provided by the concavities 19 in the jaws 13.

When flat contact members, not shown, are inserted in the openings 9 and between the jaws 13, they engage the flat faces 20 of the jaws and are clamped in position. Round contact members, not shown, engage in the concavities 19 and are clamped in such position by the jaws. Owing to the play permitted the socket member deranged contacts will be received and a good contact made.

In practice I have found that the form of my invention illustrated in the drawings and referred to in the above description as the preferred embodiment is the most efficient and practical, yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in construction, proportion and arrangement of parts may be resorted to when required without sacrificing any of the advantages of my invention as set forth in the appended claims.

I claim:

1. An electrical attachment plug comprising a body having interior openings therein, contact members mounted within and being smaller than the openings and adapted for movement relative to each other and the body, each of said contact members comprising spaced resilient jaws having concavities extending longitudinally and intermediate the side edges thereof and flat faces on either side of the concavities, said body having end openings registering with the jaws.

2. An electrical attachment plug comprising a body consisting of halves, each of said halves having a pair of recesses in one face thereof, means to secure the body together so that the recesses in each align with one another, said body having openings in one end of the body communicating with the recesses,

spaced contact members mounted within each of the recesses and having partly flat faces near the longitudinal edges thereof, and concave faces intermediate the flat faces.

3. An electrical attachment plug comprising a body socket, contact members carried by the body and each of said socket contact members comprising a pair of spaced resilient jaws extending longitudinally of the body having longitudinally opposed concave faces intermediate the longitudinal edges thereof and flat faces between the longitudinal edges and concave faces thereof.

4. An electrical attachment plug comprising a body, contact members carried by the body and each of said contact members comprising a pair of spaced resilient jaws extending longitudinally of the body having longitudinally opposed concave faces intermediate the longitudinal edges thereof, flat faces between the longitudinal edges and concave faces thereof, and a guide flange carried by one of the jaws and engaging one side of the other of the jaws of each contact socket.

5. An electrical attachment plug comprising a body, contact socket members carried by the body, each of said members comprising a pair of elongated contact jaws, a bendable strip integrally joined with the inner end of the jaws and being bent intermediate its ends to bring the jaws in parallel spaced relation to one another.

6. An electrical attachment plug comprising a body of insulating material, and contact members mounted within the body, each of said contact members comprising parallel resilient jaws, said jaws being concave longitudinally in the opposed faces thereof intermediate the longitudinal edges thereof and formed with flat faces along the longitudinal edges thereof, said flat faces diverging at the free extremities of the jaws.

7. An electrical attachment plug comprising a body of insulating material and parallel spaced resilient contact jaws mounted within the body in pairs and being flat along their longitudinal opposed faces and concave between the flat faces, said body having substantially circular openings in one end thereof communicating with the concave portions of the jaws at the free extremities thereof, said openings being enlarged on opposite sides thereof whereby the enlarged portions communicate with the spaces between the divergent flat faces.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 4th day of May 1915.

CLIFFORD E. TREAT.

In presence of—

CHAS. J. CHANCE,
L. BELLE WEAVER.