

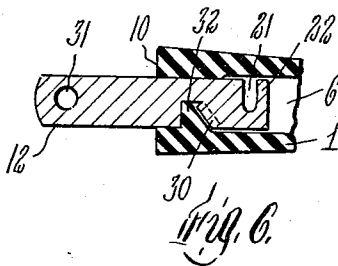
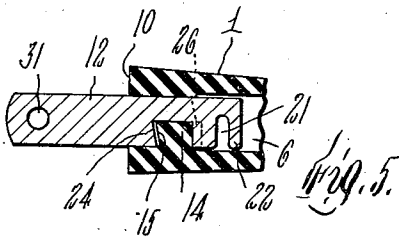
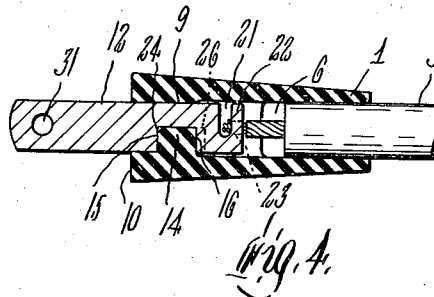
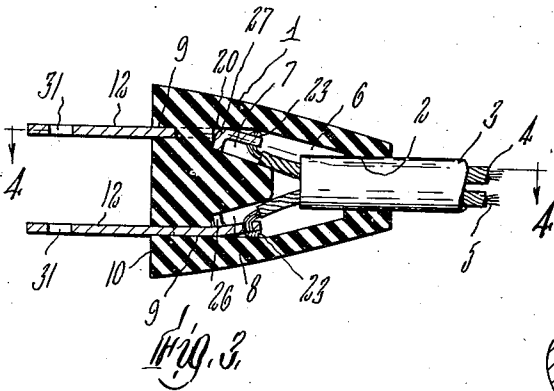
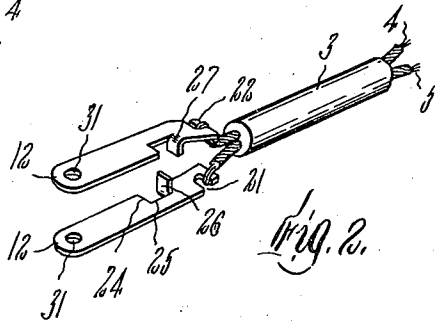
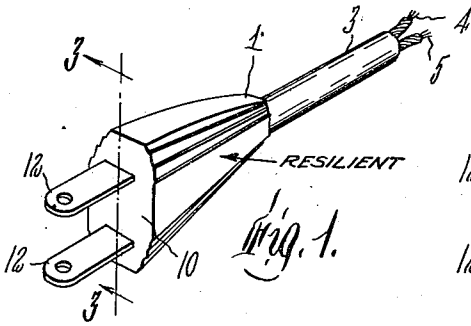
March 10, 1942.

A. BROWNSTEIN

2,276,017

ELECTRIC CORD PLUG

Filed Oct. 6, 1939



Inventor
Arthur Brownstein
Wright Brown Penick & May
Attys.

UNITED STATES PATENT OFFICE

2,276,017

ELECTRIC CORD PLUG

Arthur Brownstein, Bridgeport, Conn., assignor to
Colonial Company, Attleboro, Mass., a corpo-
ration of Rhode Island

Application October 6, 1939, Serial No. 298,229

3 Claims. (Cl. 173—361)

This invention relates to electric cord plugs, and though not limited thereto, is particularly suitable where the plug body is made in one piece of somewhat elastic deformable material within which the contact prongs are embedded and interlocked.

One object of this invention is to provide such a plug wherein the prongs may be readily assembled in the body and when assembled are automatically locked against removal.

A further object is to provide such a plug wherein the prongs can be readily formed in a simple stamping operation and wherein the same stamping can be employed for each prong, the body being formed with right and left slots to receive these prongs. By this arrangement dies of but one type need be employed, and there is no possibility at any time of there being a shortage of prongs for one set of slots and a surplus of prongs for the other set of slots.

A still further object is to provide such a plug in which the prongs may be formed of bar stock in strips of no greater width than that of the projecting portions of the prongs.

For a more complete understanding of this invention, reference may be had to the accompanying drawing in which

Figure 1 is a perspective view of a cord plug embodying the invention.

Figure 2 is a perspective view showing a pair of prongs secured to the cord and ready for assembly with the plug body.

Figure 3 is a sectional view on line 3—3 of Figure 1.

Figure 4 is a sectional view on line 4—4 of Figure 3.

Figures 5 and 6 are fragmentary sectional views similar to a portion of Figure 4, but showing modified constructions.

Referring to the drawing, at 1 is shown a plug body which may be of soft rubber or other suitable material. In one face it is provided with an opening 2 for receiving an electric cord 3 having the cord conductors 4 and 5. Inwardly of the outer face of the body, the opening 2 is extended to form a bifurcated portion 6 having the branches 7 and 8. Each of these branches leads to the rear end of a slot 9, the two slots 9 being arranged in parallel relation and opening out through the face 10 of the body 1. Each slot or opening 9 which is intended to receive the conducting prong 12 is provided with extensions 14 integral with the body portion 1 at one edge of the slot, each extension presenting front and rear shoulders 15 and 16, as shown in Figure 4.

These extensions form an obstruction in each of the slots 9, which obstruction extends substantially half way across the width of the slot. The forked branches 7 are of greater width than the lateral dimensions of the slots 9 and thus form at their forward ends shoulders 20, these shoulders merging with the back shoulders 16 of the projections 14.

The prongs 12, as shown best in Figure 2, each comprise a metallic strip substantially rectangular in cross section and of a width equal to that of the portions which project outwardly from the body 10 and engage within the slots of the outlet with which the plug will be engaged. A pair of such prongs are employed for each plug, but they are formed exactly alike so that only one set of dies are necessary in order to form the prongs for both slots. Each prong is provided adjacent to its rear end with suitable means for the attachment of one of the conductors 4 or 5 of the cord. As shown such means comprises a slot 21 cut in from one side edge of the prong, forming a finger 22 at the rear end of each prong about which the conductor may be wrapped and secured as by soldering or other suitable means as at 23. The particular manner in which the conductors are secured to the prongs is, however, not material to this invention.

One side edge of each prong is cut inwardly as at 24, and as shown for substantially half the width of the prong, and is then cut rearwardly as at 25 toward the conductor-securing means to form a lip 26. This lip is struck away from the plane of the side faces of the prong as shown, so as to present a shoulder or abutment 27 at one face of the prong and extending crosswise, which when the prongs have been drawn through the plug from its rear end through the opening 2, abuts against the shoulder 20 of the opening 2, while the projection 14 snaps into position between the forward edge 24 and the lip 26, as shown best in Figure 4, so that the projection 14 is retained within the slotted side portion of the prong. The cut edge 24 engaging the forward shoulder 14 prevents the prong from being pushed backwardly within the body while the engagement of the lip or abutment 26 against the rear shoulder 16 and the shoulder 20 of the body, prevents the prong from being pulled out of the body when the body is pulled rearwardly to disengage the prongs from their mating outlet socket. It will be noted that the lips or shoulders 26 of the two prongs 12 are turned toward each other so that they come on opposite side edges of the prongs. This requires that the slots or

openings 9 for receiving the prongs be arranged rights and lefts, the projections 14 of the two slots being arranged on opposite sides of the slots.

Where the body is formed of soft rubber the prongs assembled with the conductors, as shown in Figure 2, may be drawn forwardly through the plug into their final positions of Figure 3, whereupon the rubber, reverting toward its undistorted condition from the distortion produced when the prongs are drawn through, closes in and firmly locks the prongs in proper position.

If desired, the forward cut 24 may be undercut laterally of the prong as shown in Figure 5 to form engaging faces inclined inwardly and forwardly of the prong as shown in Figure 5, this producing an additional security to the bond, preventing rearward displacement of the prong relative to the body.

If desired, instead of having the shoulder 26 on the prong arranged at right angles to the length of the strip from which the prong is made, it may be arranged at an angle to right angles, as shown in Figure 6 at 30. This provides for somewhat greater flexibility of the locking projection 32 of the body so that it facilitates the seating of the prong therein. The forward end of the prong may be perforated as at 31, or otherwise formed to provide a latching effect when the prongs are inserted into the mating outlet socket as is well known in the art.

From the foregoing description of certain embodiments of this invention, it should be evident to those skilled in the art that various other changes and modifications might be made without departing from the spirit or scope of this invention as defined by the appended claims.

I claim:

1. A cord plug comprising a one piece resilient body having a pair of prong-receiving slots extending inwardly from one face, a cord-receiving opening extending into said body from another face, said cord-receiving opening having a forked extension leading to said slots and presenting a pair of shoulders, each of said slots having an integral projection at one edge forming front and rear shoulders, the rear shoulder merging

with one of said forked extension shoulders, and a pair of prongs each lying in one of said slots and having a side portion partly cut away to receive one of said projections and engage on its front and rear shoulders, said cut away portion being struck laterally of the plane of said prong and engaging the shoulder of one of said forked extensions.

2. A cord plug comprising a one piece resilient body having a pair of prong-receiving slots extending inwardly from one face, a cord-receiving opening extending into said body from another face, said cord-receiving opening having a forked extension leading to said slots and presenting a pair of shoulders, each of said slots having an integral projection at one edge forming front and rear shoulders, the rear shoulder merging with one of said forked extension shoulders and being inclined to the perpendicular to the adjacent edge of the corresponding slot, and a pair of prongs each lying in one of said slots and having a side portion partly cut away to receive one of said projections and engage on its front and rear shoulders, said cut away portion being struck laterally of the plane of said prong and at an inclination to matingly engage the inclined shoulder of one of said forked extremities.

3. A cord plug comprising a one piece resilient body having a pair of prong-receiving slots extending inwardly from one face, a cord-receiving opening extending into said body from another face, said cord-receiving opening having a forked extension leading to said slots and presenting a pair of shoulders, each of said slots having an integral projection at one edge forming front and rear shoulders, the rear shoulder merging with one of said forked extension shoulders, one of said shoulders being inclined to the perpendicular to the adjacent edge of the corresponding slot, and a pair of prongs each lying in one of said slots and having a side portion partly cut away to receive one of said projections and engage on its front and rear shoulders, said cut away portion being struck laterally of the plane of said prong and engaging the shoulder of one of said forked extensions.

ARTHUR BROWNSTEIN.