May 4, 1943. H. B. JONES 2,318,230

ELECTRIC PLUG

Filed May 2, 1940

Fig. 1.

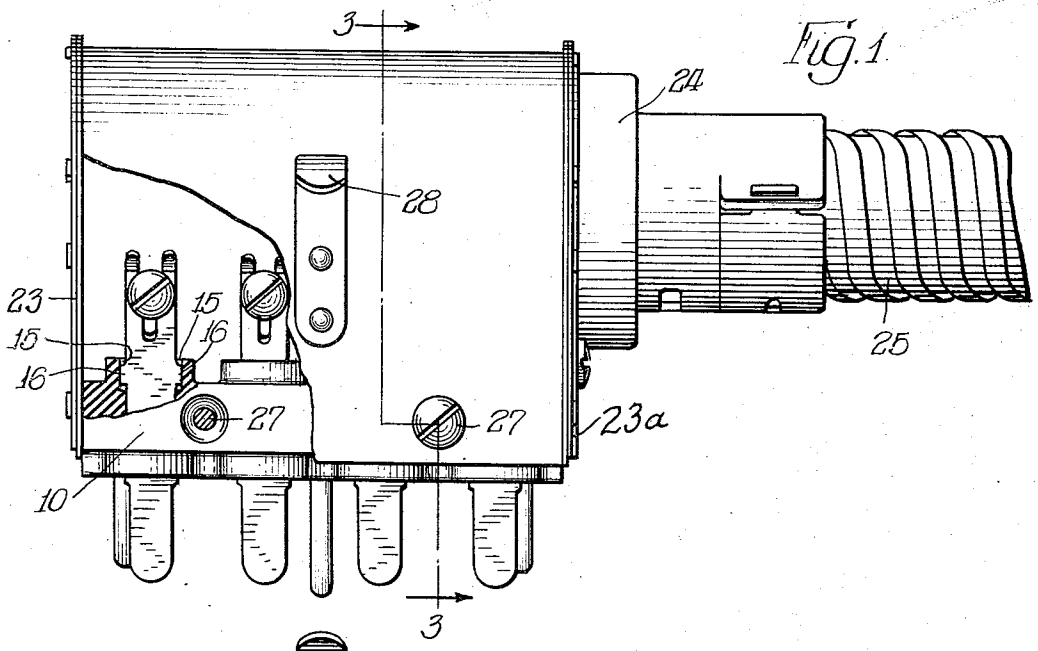


Fig. 2.

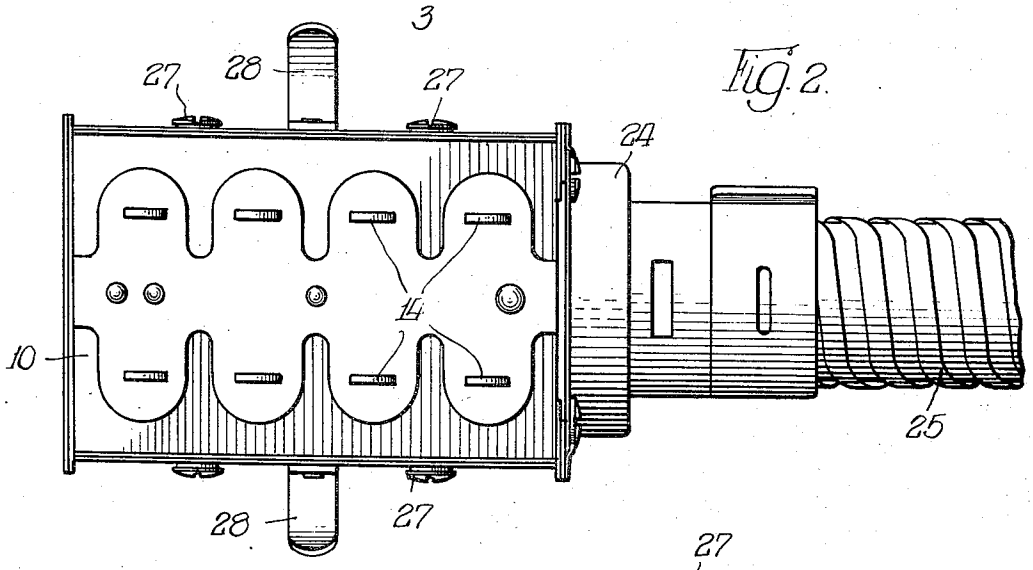
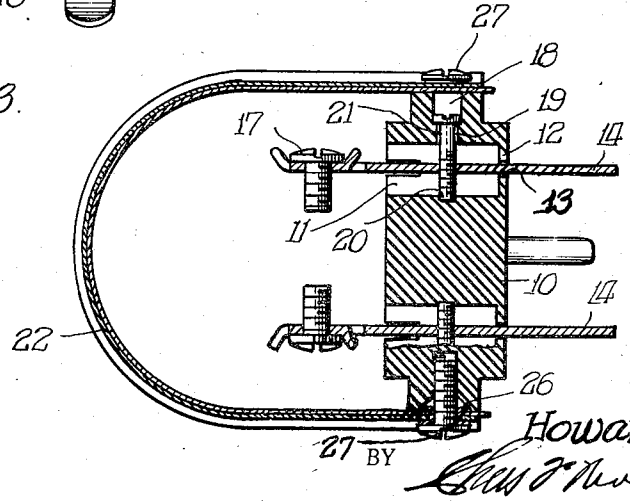


Fig. 3.



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UNITED STATES PATENT OFFICE

2,318,230

ELECTRIC PLUG

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Application May 2, 1940, Serial No. 332,862

4 Claims. (Cl. 173—361)

My invention relates to electrical apparatus and particularly to a plug having novel characteristics. This application is a continuation in part of my copending application, Serial No. 309,765, filed December 18, 1939 patented as 2,235,155, dated March 18, 1941.

An object of my invention is to provide a simple, sturdy plug adapted for use in connection with high capacity currents and which may be assembled with a minimum of labor. It is particularly intended for use in connection with a multiple plug and socket; that is, one in which a plurality of connections are made by the use of the same assembly.

In the use of multiple plugs and sockets, it is not unusual that one of the contact elements may become bent or broken and in order to avoid the loss of the entire assembly and the labor of rewiring a new assembly, I have provided means whereby any one of the contact pieces may be very readily and quickly removed and replaced without disturbing the remaining contacts. This is accomplished by the use of a single fastening element for each contact piece.

Furthermore, since it is essential that the terminal pieces to which the wires are connected shall be covered, I provide a hood into which the wires are led and which hood is likewise removably secured to the base in such manner as to adapt it for easy separation when required.

The invention will be more readily understood by reference to the accompanying drawing; in which,

Fig. 1 is a side elevation of a multiple plug assembly, a portion of the hood and base being broken away;

Fig. 2 is a bottom plan view of the assembly; and,

Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

In the drawing I have shown a base 10 composed of Bakelite or some similar dielectric material, the base being rectangular in outline and providing eight openings for the accommodation of the plugs for a four circuit assembly. These openings 11, one of which is shown in Fig. 3 and all of which are identical, extend downward and terminate short of the lower wall 12 of the base in a narrow slot 13 of substantially the size of the plug or contact piece 14 which projects therethrough. At the upper end of the opening I provide notches 15 on diametrically opposite sides in order to accommodate lateral projections or ears 16 provided on the plug. The upper end of the plug provides the usual wire connector elements including the screw 17.

The base is also provided with a transverse opening 18 having a contracted unthreaded portion 19 and a continuation 20 thereof at a point beyond the other opening 11. Within this transverse opening is received a screw 21 and the plug member 14 has a threaded opening which is engaged by the said screw.

In installing the plug member it is seated in the position shown in Fig. 3 by a sliding movement and thereafter the screw 21 is placed as shown, the opening 18 being later filled with wax. Thus for replacement it is only necessary to back out the screw 21 and the contact piece may be renewed.

As a means for covering the wire connectors I provide a hood having a body portion 22 which is U-shaped in cross-section and provided with ends 23 and 23a, the end 23 being permanently joined to the body portion by crimping or riveting, and the hood being lined with an insulating material. Secured to the end 23a and surrounding an opening in said end is a thimble or sleeve 24 adapted to receive and hold a cable 25 through which the wires are admitted.

The hood is provided at its lower edges with eyelets 26 and the base has threaded registering openings adapted to receive screws 27 that serve to hold the hood in place. For ease in assembly the said openings are flared at their outer ends, as best shown in Fig. 3.

In order to replace any damaged plug, it is only necessary to remove the screws 27 and lift the hood body by means of the finger holds 28 sufficiently to expose the base and connectors. Thereupon the screw 21 holding the damaged plug may be removed and a new contact piece inserted.

I claim:

1. In combination, a base having an opening, a contact piece within the opening and extending on opposite sides of the base, said opening being of substantially greater width than the piece at its upper end and being contracted at its lower end to a size only slightly greater than the cross sectional area of the piece, and its upper end having diametrically opposite notches, projections on opposite sides of said piece adapted to engage said notches whereby the piece is held only at the upper and lower ends of the opening against lateral movement, said piece having a threaded opening located midway between its ends and within the limits of the base, and a screw extended laterally through a side wall of

the base and engaging said threaded opening in the piece whereby to hold the piece against longitudinal movement.

2. In combination, a base having an opening, a contact piece within the opening and extending on opposite sides of the base, said opening being of substantially greater width than the piece at its upper end and being contracted at its lower end to a size only slightly greater than the cross sectional area of the piece, and its upper end having diametrically opposite notches, projections on opposite sides of said piece adapted to engage said notches, whereby the piece is held only at the upper and lower ends of the opening against lateral movement, and said projections and notches act as limit stops for the piece against downward motion, and a screw extended laterally through a side wall of the base and engaging said piece to hold it against longitudinal movement.

3. In combination, a dielectric base and a plurality of metallic plug elements readily removably mounted therein, each held in place by a screw entering the base from a side edge of the base, and a hood overlying the assembly of base and plugs and removably connected to the base by holding means engaging the said side edges of the base, said hood overlying said plug-holding screws, said hood being composed of a body portion having a permanent end wall at one end and at its other end a sleeve for the reception of wires adapted to be connected to said plug elements, said hood with its fixed end wall being removable as a unit vertically from the base.

4. In combination, a dielectric base and a plurality of metallic plug elements readily removably mounted therein, each held in place by a screw entering the base from a side edge of the base, and a hood overlying the assembly of base and plugs and removably connected to the base by holding means engaging the said side edges of the base, said hood overlying said plug-holding screws, said hood being composed of a U-shaped body portion having a fixed end wall at one end and at its other end an end wall carrying a sleeve for receiving wires adapted to be connected to said plug elements, said hood body and fixed end wall being removable as a unit vertically from the base.

HOWARD B. JONES.