July 10, 1934. F. W. UTRECHT 1,965,784

DUAL PLUG SOCKET

Filed Aug. 6, 1928

FIG. 1.

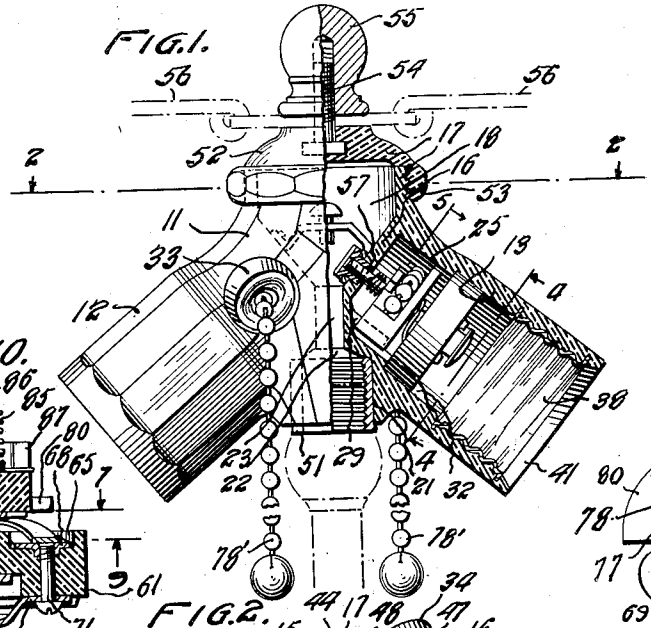


FIG. 10.

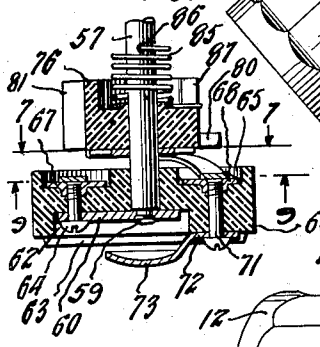


FIG. 9

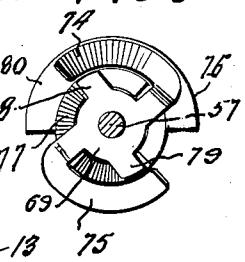


FIG. 2.

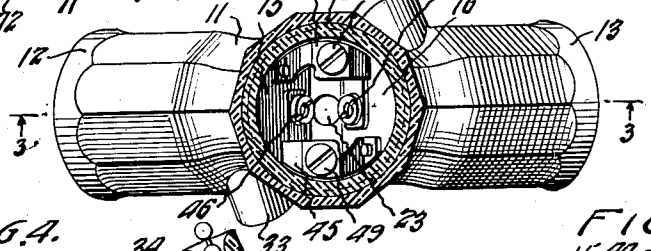


FIG. 4.

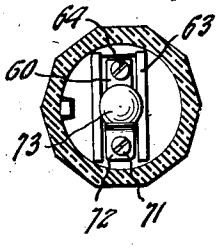


FIG. 5.

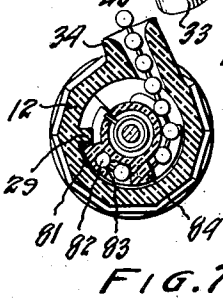


FIG. 3.

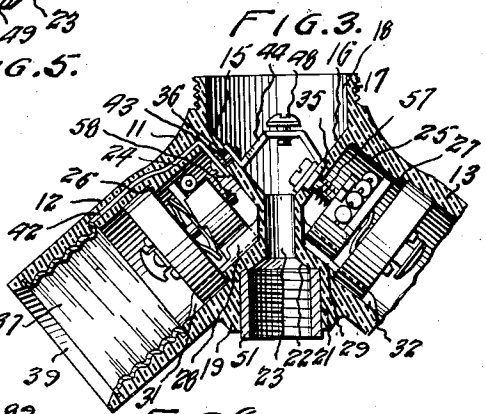


FIG. 7.

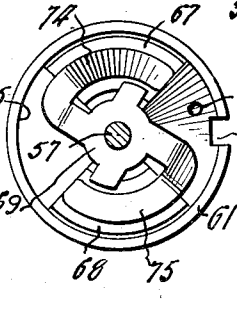


FIG. 6.

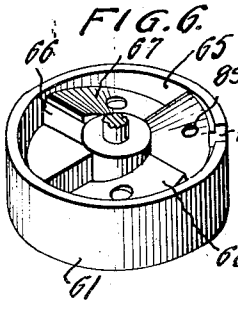
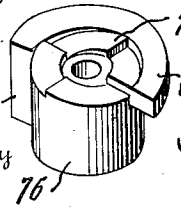


FIG. 8.



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# UNITED STATES PATENT OFFICE

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## DUAL PLUG SOCKET

Frederick W. Utrecht, Washington, D. C.

Application August 6, 1928, Serial No. 297,724

3 Claims. (Cl. 173—336)

This invention relates in general to electric fixtures and more particularly has reference to an independently operated dual plug socket.

Previous to this time the body portion of fixtures of this character have usually been made up of metal stampings with suitable switch mechanisms mounted therein. The sleeves for receiving the plugs have been fixed on the body portion and provided with conventional shell contacts connected to the switch mechanisms.

It is apparent that these devices require a minute insulation of the parts and that the numerous elements complicate assembly and make repair difficult. The various switch mechanisms heretofore employed have also included metallic portions liable to disarrangement with the consequent possibility of causing cross circuits in the fixture body.

An object of this invention is to provide an electric fixture for receiving one or more connector plugs, each independently operable in a circuit.

Another object of this invention is to provide an electric fixture for receiving one or more connector plugs, of extremely simple construction.

Still another object of this invention is to provide an electric fixture for receiving one or more connector plugs, simple of assembly and allowing ready access for installation.

Still another object of this invention is to provide an electric fixture for receiving one or more connector plugs which may be fixed on a pedestal support.

A further object of this invention is to provide an electric fixture for receiving one or more connector plugs, which may be cast in a single piece, and switch mechanisms mounted as independent units therein.

A still further object of this invention is to provide an electric fixture for receiving one or more connector plugs having independently operated switch mechanisms constituting individual units.

To accomplish the above and other important objects, as will more fully appear herein, my invention in general comprises an electric fixture adapted to receive one or more electric lights or connections, the receiving units being provided with individual control means, the entire article being economical and simple in construction, yet durable, and so made up that access to its constituent elements may be readily had although a minimum of its parts are exposed. The construction of the device is such that it is subject to only slight wear, with the assurance of an appreciable increase of longevity.

In order to insure an adequate comprehension of my invention, but wishing it to be distinctly understood that various modifications may be made therein without exceeding the true scope of my invention, reference is had to the accompanying drawing in which similar numerals indicate the same parts.

In the drawing forming a part of this specification:

Figure 1 is a side elevational view showing one of the sockets in section.

Figure 2 is a top view taken on line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a sectional view with one end of the socket broken away, taken on line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a bottom view taken on line 4—4 of Figure 1 looking in the direction of the arrows.

Figure 5 is a top view taken on line 5—5 of Figure 1 looking in the direction of the arrows.

Figure 6 is a perspective view of the stationary element of the switch mechanism.

Figure 7 is a top view of the stationary element, taken on line 7—7 of Figure 10

Figure 8 is a perspective view of the bottom of the rotary element of the switch mechanism.

Figure 9 is a bottom view of the rotary element taken on line 9—9 of Figure 10, looking in the direction of the arrows.

Figure 10 is a sectional view of the assembled switch mechanism.

Referring more particularly by numerals to the drawing in which the same and similar elements are designated by like symbols of reference throughout, and more especially to Figure 1, there is shown the electric fixture forming the subject matter of this invention, comprising a body portion 11. The body portion 11 is preferably composed of some suitable non-conductive material such as a desirable phenol condensation product, although hard rubber or porcelain may be used, as well as metal. If metal is selected in place of the more frangible materials, the various elements must necessarily be thoroughly insulated.

The body portion 11 is shaped to form a pair of oppositely disposed corresponding sockets 12 and 13. The inner ends of the sockets 12 and 13 are closed by partition walls 15 and 16 and an externally threaded rim 17 formed around the top to provide a recess 18 for access to the backs of the partition walls 15 and 16.

The body portion is formed in addition with a lower extension 19 intermediate the sockets, pro-

vided with a central bore 21, tapered at the end, as at 22. A conduit 23 communicating with the recess 18 and the bore 21 is also formed in the body portion of the fixture between the sockets.

The closed ends of the sockets are reduced in diameter as at 24 and 25, forming annular shoulders 26 and 27, adapted to seat the stationary elements of switch mechanisms, to be hereinafter more fully described. Ribs 28 and 29 are formed along the bottom of the reduced portion of the closed ends of the sockets, adapted to act as stops for the rotatable elements of the switch mechanisms, and extended to form ribs 31 and 32 extending into the back of the open ends, to fix the position of the stationary elements of the switch mechanisms.

The sides of the sockets are formed with oppositely disposed apertures having integral collars 33 and 34 on the outside for receiving pull chains. The partition walls 15 and 16 are provided with central apertures 35 for receiving the shafts supporting the switch mechanisms, and additional apertures 36 for receiving contacts, connecting plugs inserted in the sockets to a source of current.

A plurality of shell contacts 37 and 38 are mounted in the open ends of the sockets 12 and 13. The contacts are preferably cast in the body portion, so the top and bottom rims will be secured in the walls of the sockets, but the fixture may be molded with threads so that the shells can be subsequently screwed in if so desired. In either instance the outer ends of the sockets are tapered on the interior as at 39 and 41 to facilitate the insertion of plugs.

The contacts 37 and 38 are formed with integral extensions 42 on the top, adapted to be incorporated in the side walls of the sockets if the contacts are cast with the fixture as shown in Figure 3. The extensions 42 are flanged at the top and fixed to the undersides of the partitions 15 and 16 by bolts 43 extending through the apertures 36. It is manifest that the conductors may be juxtaposed against the inner surfaces of the side walls after the fixture has been cast, in the instance where it is intended that the contacts 37 and 38 be subsequently inserted.

The respective ends of the shafts and the bolts 43 extending through the apertures 35 and 36 in the partition walls 15 and 16, are joined by connections 44 and 45 as shown in Figure 2. The ends of the bolts 43 are inserted through apertures provided in the connections and turned over or otherwise suitably fixed, and the ends of the shafts inserted through similar apertures in the connections, are fixed in place by collared nuts 46 and 47. A plurality of screws 48 and 49 are mounted in threaded apertures formed in the connections, adapted to afford terminal binding posts for connecting the fixture to lead wires from a source of current. It will be seen that the connectors 44 and 45 connect the switch and shell members of the opposite sockets in an electrical circuit, and the single terminals on each of the connectors provide for thus connecting both sockets in an ordinary light circuit.

An internally threaded sleeve 51 is mounted in bore 21 formed in the extension 19 intermediate the sockets to allow mounting the fixture on a pedestal support. It is manifest, however, that the sleeve may be dispensed with if so desired, and the fixture cast with a threaded base, although the sleeve is deemed to add rigidity to the mounting.

A cap 52, having an internal threaded rim 53, is adapted to engage the externally threaded rim 17 formed on the body portion of the fixture. The cap is preferably composed of the same material as the fixture and cast with a screw 54 embedded in the top, or otherwise fixed therein, adapted to receive a knob 55 for supporting a lamp shade frame 56. It will be noted that with slight modification, the lead in wires may be introduced through the cap and the fixture similarly supported, and in this manner the construction for mounting the fixture on a pedestal support, dispensed with.

The switch mechanisms are identical and for that reason only one unit is described in detail. The switches as previously described are mounted on shafts 57 and 58 having the inner ends fixed in the apertures 35 in the partition walls.

The opposite ends of the shafts are reduced and adapted to be inserted through apertures provided in plates 60 and riveted or otherwise suitably fixed as shown in Figure 10. Stationary elements 61, preferably made of porcelain, are fixedly mounted on the end shafts and held by the plates 60. The bottoms of the stationary elements are formed with rectangular depressions 62 extending from near an edge across the center, adapted to receive plates 60. Flanges 63 are provided on the stationary elements to prevent resilient cup-shaped members hereinafter referred to contacting with plate 60 and causing a short circuit.

The outer ends of plates 60 are secured in the depressions by bolts 64 extending through the stationary elements. The upper faces of the stationary elements are formed with central recesses 65, as shown in Figures 6 and 7, and the faces formed with equally spaced ratchet teeth 66. A plurality of contacts 67 and 68 are mounted on the opposite ratchet faces for cooperation with pawls 69. The contacts 67 are fixed by the ends of the threaded bolts 64 engaging threaded apertures therein, and the contacts 68 similarly held in position by the ends of bolts 71. The heads of bolts 71 on the bottoms of the stationary elements are adapted to secure contacts 72 formed with resilient cup shaped members 73 extending over the heads of the shafts 57.

The pawls 69 are formed with oppositely disposed resilient arms 74 and 75 as shown in Figure 7, adapted to alternately engage the contacts 67 and 68 and the remaining ratchet faces 66 on the top of the stationary element. Above the stationary elements 61 are mounted rotary elements 76 seated on the pawls 69. The rotary elements, preferably composed of the same material as the stationary elements, are formed with ratchet faces 77 as shown in Figure 8, on the bottom, adapted to engage oppositely disposed shoulders 78 and 79 provided on the pawls 69 at approximately right angles to the shoulders. In this manner by rotating the elements 76, the ratchet teeth 77 will engage the shoulders 78 and 79 on the pawls and cause the integral arms 74 and 75 to rotate on the ratchet face of the stationary element 61, and on and off of the contacts 67 and 68.

The rotary elements 76 are formed with flanges 80 extending around a portion of the periphery on the bottom edge adapted to support pull chains 78'. Shoulders 81 are formed on one end of the flanges extending the length of the elements and provided with central bores 82 adapted to receive the end ball on the chain, and slots 83 communicating with the exterior of the shoulders for receiving the connection uniting the balls as shown in Figure 5. Projections 84 are formed

on the tops above the flanges to prevent the chains from becoming disengaged.

The tops of the rotary elements are provided with central recesses adapted to act as seats for spiral springs 85, adapted to hold the elements against the pawls 69. The top ends of the springs are fixed in apertures 86 in the shafts and the bottom ends held in slot 87 provided in the outer wall of the rotary elements.

The stationary elements are provided with slots 88 across the periphery adapted to fit over the ribs 31 and 32 in the open ends and thus prevent rotation in the socket. The shoulders 81 formed on the rotary elements are normally adapted to contact with ribs 29 formed in the closed ends of the sockets, designed to act as stops, so that the rotary elements cannot revolve past the rib. Thus by pulling the chains 78' the rotary elements are caused to revolve against the force of the springs 85 until the faces of the flanges 80 contact with the ribs 29, whereupon the pawls are rotated across the contacts on the stationary elements, thereby opening and closing the respective circuits.

To facilitate the assembly of the socket and more particularly to prevent rotation of the rotary elements 76, I provide apertures 89 in the stationary elements through which a wire or pin may be inserted and thus maintain the rotary elements 76 in position until the socket is assembled. The wire or pin is then withdrawn.

In assembling the fixture after the body portion has been cast, preferably together with the shell contacts 37 and 38, the pull chains 78' are inserted through the apertures in the collars 33 and 34 and the end balls mounted in the recesses 82 in the ribs 81 on the rotary elements. The chain is laid around a portion of the periphery of the elements on the flanges 80 under the projections 84, whereupon the switch mechanisms are inserted in the sockets as units and the ends of the shafts 57 fixed by the collared nuts 46 and 47 holding the ends of the connections 44 and 45 as previously described.

After the switches have been inserted, the fixture mounted on a pedestal support, lead wires may be introduced through the conduit 23 and fixed to the terminal binding posts 48 and 49 after which the cap may be screwed on.

There is accomplished by this invention an electric fixture for receiving one or more connector plugs each independently operable in a circuit, of extremely simple construction, easy of assembly and allowing access for repair, which may be cast in a single piece and the switch mechanisms inserted as independent units, and the fixture mounted on a pedestal support.

While I have described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth, by way of illustration, as it is apparent that many changes and variations may be made therein, by those skilled in the art, without departing from the spirit of the invention, or exceeding the scope of the appended claims.

I claim:

1. A dual plug socket comprising a pair of integrally formed sockets closed at the inner ends, individual switch mechanisms mounted in the sockets at the closed ends and fixed therein by members forming terminal binding posts, and shell contacts fixed in the sockets adjacent the open ends thereof.

2. A dual plug socket comprising an insulator shell formed to provide three compartments, individual rotatable switch mechanisms and shell contacts mounted in each of two compartments forming sockets, partitions formed in the shell between the sockets and the third compartment and apertures in the partition for receiving members provided on the switch members to fix the same, said members extending in the third compartments for terminal binding posts.

3. A dual plug socket comprising a shell formed to provide three compartments, a switch mechanism and a contact shell mounted in each of two compartments forming sockets, partitions formed in the shell between the sockets and the third compartment, members connected with the switch mechanisms and contact shells extending into the third compartment to provide terminal posts and means to support the fixture and receive leads from a source of current communicating with the third compartment.

FREDERICK W. UTRECHT.