May 3, 1955 J. J. STEINHARTER 2,707,733

MULTIPLE OUTLET PLUG AND SWITCH

Filed Jan. 25, 1952 2 Sheets-Sheet 1

Fig. 1.

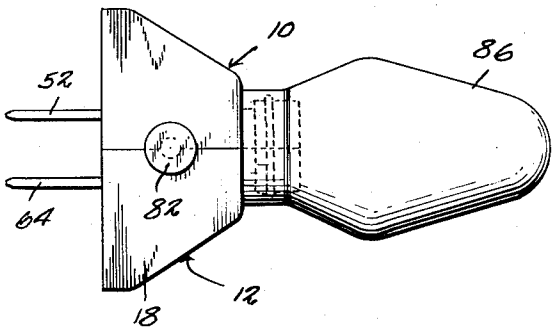


Fig. 4.

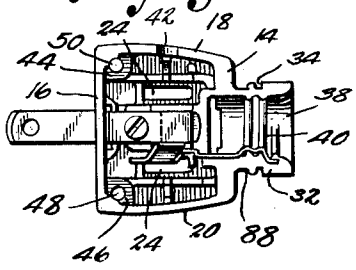


Fig. 2.

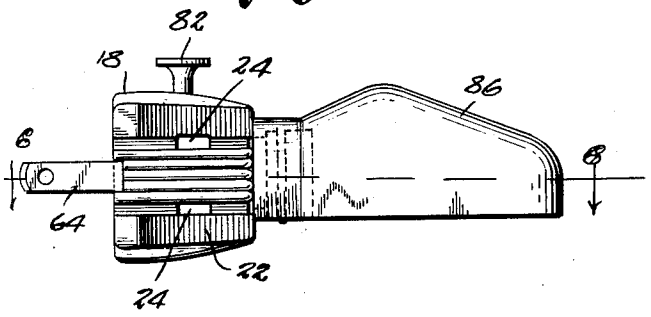
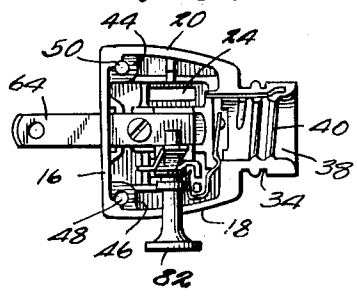


Fig. 5.



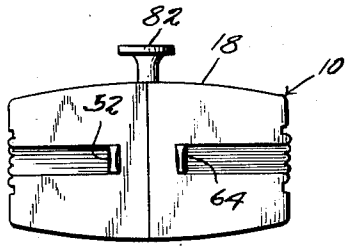


Fig. 3.

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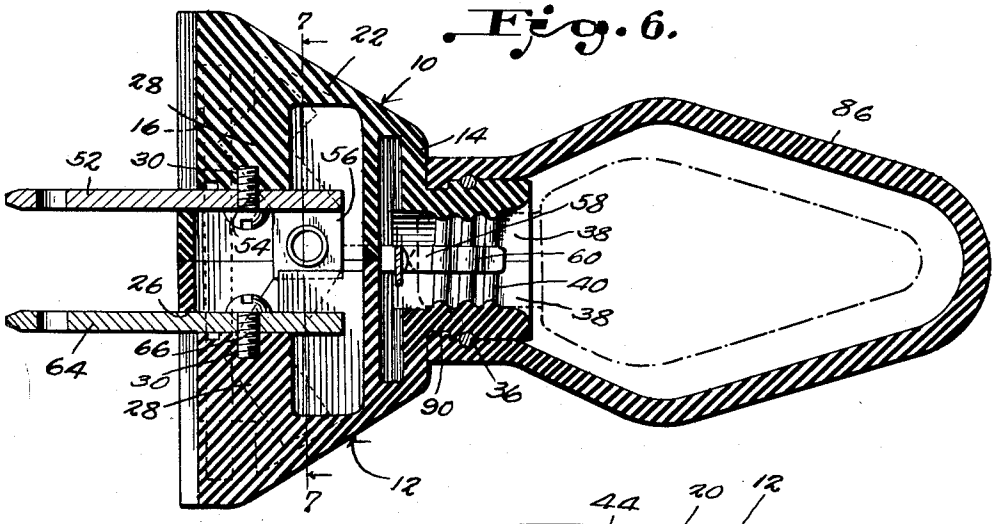
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May 3, 1955 J. J. STEINHARTER 2,707,733

MULTIPLE OUTLET PLUG AND SWITCH

Filed Jan. 25, 1952 2 Sheets-Sheet 2

Fig. 6.



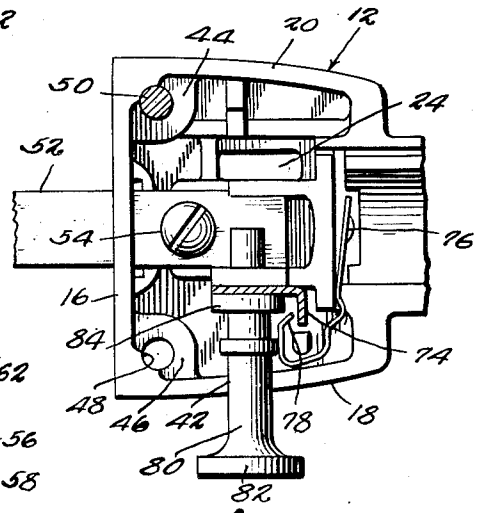


Fig. 8.

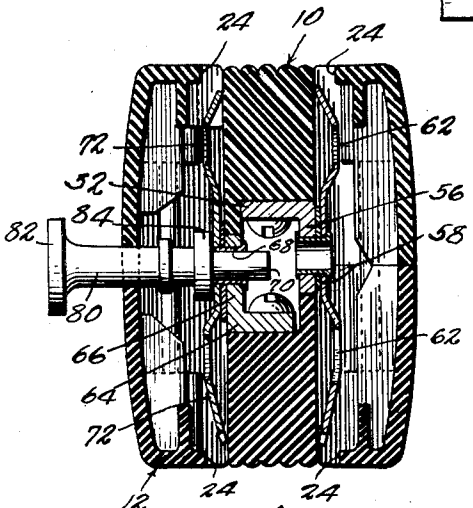


Fig. 7.

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MULTIPLE OUTLET PLUG AND SWITCH

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3 Claims. (Cl. 200—51.16)

This invention relates to a multiple outlet plug and more particularly to that type of plug adapted to be coupled to a conventional electrical convenience outlet to increase the number of outlets available for the connection of attachment plugs to an electrical power line.

The primary object of the invention is to reduce to a minimum the number of time consuming operations in the assembly of devices of the type to which this invention relates.

Heretofore it has been customary to connect the non-conducting parts of plugs of the type to which this invention relates by the use of screws and nuts, or by riveting the parts together. Both the riveting operations and the coupling of the parts together by the use of bolts is laborious and time consuming particularly in view of the relatively small sizes of the bolts and rivets employed. As a consequence the cost of production of items of this character has increased in proportion to the labor costs involved.

It is therefore another object of this invention to simplify the assembly of the parts and avoid the necessity of handling small intricate fastening means for holding the parts together.

A further object is to employ the inherent characteristics of the convenience outlet in maintaining the parts of the plug in proper relation by having the contact prongs of the outlet plug serve as holding members when they are thrust into a conventional convenience outlet.

Still another object is to effect economies in the amount of metal required for the production of a multiple outlet plug, particularly of the type employed for supporting the conventional night light and the conduct of electrical energy thereto.

A still further object is to facilitate the convenient energization or de-energization of a conventional electrically energized lamp of the type employed in night lights.

The above and other objects may be attained by employing this invention which embodies among its features a pair of mating body members having spaced parallel front and back walls, and an end wall closing one end of each unit and having spaced slots extending therethrough for the reception of the prongs of a conventional attachment plug, a semi-cylindrical projection carried by the front wall of each unit adjacent the open end thereof adapted to be embraced by a conventional split ring by which the units are held in assembled position, a prong carried by each unit and extending outwardly from the back wall thereof for entrance into the slot of a conventional electrical convenience outlet, the contact prongs cooperating with the ring in holding the units assembled, contact members carried by the prongs and extending transversely of the prongs within the units and into close proximity to the slots in the end walls thereof.

Other features include forming the semi-cylindrical extensions in tubular fashion and providing in each mating ribs which form when the parts are assembled a screw threaded socket for the reception of a lamp base, a contact tongue carried by one of the prongs and projecting into the socket for engagement with the side of a lamp base, a contact member carried by the opposite unit and projecting into the socket for engagement with the inner end of a lamp base, and a stem mounted in the assembled unit and slidable through one side thereof and through one of the prongs for engaging the last mentioned contact member and moving it into electrical communication with the adjacent prong.

In the drawings,

Fig. 1 is a plan view of the assembled device showing a conventional hood mounted thereon for partially shielding a lamp mounted in the socket,

Fig. 2 is a side view of the structure illustrated in Fig. 1,

Fig. 3 is a rear end view of the device illustrated in Fig. 1,

Fig. 4 is a view from the inner open end of one of the units,

Fig. 5 is a view similar to Fig. 4 of the mating unit,

Fig. 6 is an enlarged sectional view taken substantially along the line 6—6 of Fig. 2,

Fig. 7 is a sectional view taken substantially along the line 7—7 of Fig. 6, and

Fig. 8 is an enlarged fragmentary detail view similar to Fig. 5.

Referring to the drawings in detail a multiple outlet plug comprises mating units designated generally **10** and **12** respectively each comprising a body member having a front wall **14**, a back wall **16**, side walls **18** and **20** and an end wall **22**. Formed in each end wall **22** are spaced slots **24** which extend therethrough for the reception of the prongs of a conventional attachment plug. The back wall of each unit is formed with a slot **26**, and joining the back wall adjacent its respective slot **26** and extending inwardly from the back wall into the hollow unit is a post or pedestal **28** which is provided with an internally screw threaded recess **30**, the purpose of which will hereinafter appear. The recess **30** opens through the end of the pedestal adjacent the open end of the unit as will be readily understood upon reference to Fig. 6.

Carried by and projecting outwardly from the front wall **14** of each unit is a semi-cylindrical projection **32** having formed intermediate its ends an annular groove **34** for the reception of a split ring **36** of resilient material which when embracing the units serves to hold them in assembled relation as illustrated in Figs. 1 through 3 inclusive. In the preferred form of the invention, each semi-circular projection **32** is formed with a longitudinally extending semi-circular recess **38** carrying inwardly projecting spaced ribs **40** which when the parts are assembled form screw threads for engaging the base of a conventional electrically illuminated lamp employed as a night light. It will thus be seen that the projections **32** when provided with the semi-circular recesses **38** and ribs **40** provide a socket into which the base of the lamp may be screwed in a conventional manner.

Formed in the wall **18** of each unit is a semi-circular recess **42** which when the parts are assembled forms a circular opening in the complete device through which works the stem of the button which is employed in energizing and de-energizing an electrically illuminated lamp mounted in the socket. Formed at the junction of the side walls **18** and **20** with the back wall **16** of each unit are lugs **44** and **46** and formed in the lug **46** of each unit is a recess **48** which opens toward the open end of the unit for the reception of pegs **50** carried by the lugs **44**. It will thus be seen that the pegs **50** upon entering the sockets **48** will serve to guide the units and hold them in proper alignment during and after the assembly of the device.

Extending through the slot **26** of the unit **10** is a contact prong **52** and extending through the contact prong **52** and threadedly engaging the threaded socket **30** of

the unit 10 is a screw 54 which serves to hold the prong in proper position in the unit 10. Carried by the prong 52 and extending perpendicularly therefrom within the unit 10 is an arm 56 to which is riveted or otherwise secured a contact tongue 58 which extends perpendicularly from the arm 56 and into the recess 38 therein. The tongue is provided adjacent its end remote from the arm 56 with corrugations 60 which overlie the ribs 40 within the recess 38 so that when a lamp base is screwed into the socket formed by the assembled device the tongue will engage the side of the lamp base for conducting electrical energy to the lamp. Spring contact fingers are carried by the arm 56 and project therefrom in substantially perpendicular relation to the prong 52 with one of the fingers lying adjacent a slot 24 in the unit 10 while the opposite finger 62 projects into the mating unit 12 and terminates adjacent the slot 24 therein which when the parts are assembled aligns with the slot 24 adjacent which the finger 62 terminates.

Extending through the slot 26 of the unit 12 is a contact prong 64 which is held in place in the unit 12 by a suitable screw 66 which enters the socket 30 in the post 23 of the unit 12 and carried by the prong 64 and extending perpendicularly thereto is an arm 66 having an opening 68 extending therethrough for the reception of a tubular rivet 70 by means of which spring fingers 72 are secured to the prong 64. Like the spring fingers 62, the fingers 72 extend perpendicular to the prong 64 and one of the fingers terminates adjacent the slot 24 in its respective unit 12 while the other finger terminates adjacent the slot 24 in the unit 10 when the parts are assembled.

Carried by and extending perpendicularly from the spring fingers 72 adjacent their connection to the arm 66 is a contact arm 74 and extending into the recess 38 in the cylindrical extension or collar 32 of the unit 12 is a contact member 76 which is adapted to engage the base of a lamp engaging the contact tongue 58. This contact member 76 extends into the interior of the assembled units as illustrated in Fig. 8 and is provided with a resilient contact finger 78 which is adapted to be moved into engagement with the contact 74 in order to complete the supply of electrical energy to a lamp engaging the contact 76. Mounted for sliding movement in the recesses 42 of the mating units 10 and 12 and through the opening in the tubular rivet 70 is a stem 80 carrying adjacent its outer end a head 82, and intermediate its ends an outwardly extending annular collar 84 which when the stem is moved outwardly engages the resilient finger 78 and advances it into contact with the contact member 74, it being understood that the finger 78 moves outwardly through its inherent resiliency and away from the contact 74 when the collar 84 is moved into the position illustrated in Figs. 7 and 8.

In use with the prongs 52 and 64 and their attendant contact members assembled in their respective units 10 and 12, it will be evident that the units may be readily assembled by introducing the pegs 50 into their respective sockets 48 and simply pushing the parts together until the adjacent open ends of the units are in abutting relation as illustrated in Figs. 1, 3 and 6. With the parts thus assembled, the split ring 36 is placed in encircling relation with the semi-cylindrical members 32 and this together with the pegs 50 will serve to keep the parts in proper relation. Upon the threading of a lamp base into the recesses 38, it will be evident that the tongue 58 will threadedly engage the side of the lamp base while the contact member 76 will engage the bottom of the lamp base so that when the prongs 52 and 64 are thrust into a conventional convenience outlet and the stem 80 of the button 82 is moved outwardly, a flow of electrical energy will be established through the lamp. At the same time upon introducing the prongs of a conventional attachment plug through the slots 24, they will be moved into engagement with the contact fingers 62 and 72 so that a flow of electrical energy may thus be established through an attachment. Obviously, if so desired a hood 86 may

be removably mounted on the cylindrical projections 32 and to this end the projections are provided adjacent their junctions with the front walls 14 with grooves 88 for the reception of the conventional inwardly extending rib 90 carried by the hood 86.

Owing to the structure of the units, it is evident that the parts may be assembled without employing the conventional bolts or rivets usually employed to hold the non-conducting elements of an outlet plug in assembled relation as the entire device is held in assembled relation simply by encircling the semi-circular projections 32 with the split ring 36. Separation of the parts when in service is further resisted by the fact that the prongs 52 and 64 entering a conventional convenience outlet will serve to aid the split ring in maintaining the parts in assembled position. It will therefore be evident that much of the labor involved in assembling devices of this character may be eliminated and the assembly of such devices may be readily accomplished.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. In a multiple outlet plug of the type having spaced contact prongs for entrance into a conventional electrical convenience outlet, a body comprising mating body members each body member comprising a hollow unit of substantially rectangular cross section having spaced parallel front and back walls, and end wall closing one end of each unit, each end wall having spaced prong receiving slots extending therethrough, the opposite end of each unit being wholly open and lying perpendicular to the front and back walls, a substantially semi-circular collar member carried by the front wall of each unit and projecting outwardly therefrom adjacent the open end thereof, spaced ribs carried by each collar member and projecting inwardly therefrom and forming when the body members are assembled in mating relation screw threads for engaging a lamp base, a contact prong carried by each body member and projecting outwardly from the rear wall thereof, a resilient contact tongue carried by the prong of one of the body members and projecting into the interior of the collar member thereof for engaging the side of the base of a lamp threaded into the mating collar members, a resilient contact member carried by the prong of the mating body member and projecting into the collar member thereof for engaging the bottom of the base of a lamp threaded into the mating collar members, reciprocable means carried by the mating body members and extending through the body between the ends thereof engageable with the resilient contact member and to move said contact member into electrical contact with one of the prongs carried by one of the body members, and yielding contact arms carried by the prongs and extending transversely thereof within the body members and into the path of movement of the contact prongs of an attachment plug entered into the prong receiving slots of a body member.

2. A multiple outlet plug of the type having spaced prongs for entrance to a conventional convenience outlet comprising a pair of split mating body members, each consisting of a hollow unit having spaced parallel front and rear walls and a pair of connecting angularly disposed side walls the rear wall having a pair of spaced parallel prong receiving slots therein, contact prongs disposed within said slots, said body members having a transverse chamber therein intersecting said slots at right angles, each front wall having a pair of semi-circular collar members which are interiorly ribbed and shaped to provide a threaded socket for receiving a lamp when the mating body members are assembled, a split ring surrounding said collar members and hold-

ing the same in place, each of said prongs having curved resilient extensions lying within said chamber and providing a pair of electrical contacts for a lamp within said socket, said pair of side walls each having a pair of prong receiving slots therein which lead into said chamber, the extensions on said prongs extending into such last mentioned slot and providing electrical contacts for the prongs of an attachment plug entered therein, a switch slidably mounted in said mating body members adjacent the meeting edges thereof and operable to engage said extensions and actuate the same to open and close the circuit to a lamp secured in said lamp socket and a plurality of pegs disposed in recesses in said body members and cooperating with said split ring to secure said mating body members against relative displacement.

3. In a multiple outlet plug of the type having spaced contact prongs for entrance into a conventional electric convenience type outlet, a body comprising mating body members each comprising a hollow unit of substantially rectangular cross section having spaced parallel front and back walls, an end wall closing one end of each unit, each end wall having spaced prong receiving slots extending therethrough, the opposite end of each unit being wholly open and lying perpendicular to the front and back walls, a substantially semi-circular collar member carried by the front wall of each unit and projecting outwardly therefrom adjacent the open end thereof, spaced ribs carried by each collar member and projecting inwardly therefrom and forming when the body members are assembled in mating relation, screw threads for engaging a lamp base, a contact prong carried by each body member and projecting outwardly from the rear wall thereof, a resilient contact tongue carried by the prong of one of the body members and projecting into the interior of the collar member thereof for engaging the side of the base of a lamp threaded into the mating collar members, a contact carried by the prong of the mating body member and a resilient contact member supported by said mating body member projecting into the collar member thereof for engaging the bottom of the base of a lamp threaded into the mating collar members, a stem mounted in the mating body members to slide perpendicularly to the longitudinal axis of the plug and through one of the prongs and an outstanding annular shoulder carried by the stem for movement therewith into and out of engagement with the resilient contact member to move said resilient contact member into and out of engagement with said prong opposite the contact tongue carrying prong.

References Cited in the file of this patent

UNITED STATES PATENTS

543,016	Heath	July 23, 1895
1,832,044	Muldoon	Nov. 17, 1931
2,050,438	Ludwig	Aug. 11, 1936
2,075,364	Smith	Mar. 30, 1937
2,114,826	Zelov	Apr. 19, 1938
2,245,068	Chirelstein	June 10, 1941
2,446,709	Ludwig	Aug. 10, 1948
2,595,799	Ludwig	May 6, 1952