June 20, 1933. H. D'OLIER, JR 1,914,993

RIGID BAILED CONNECTER AND CONNECTER SOCKET

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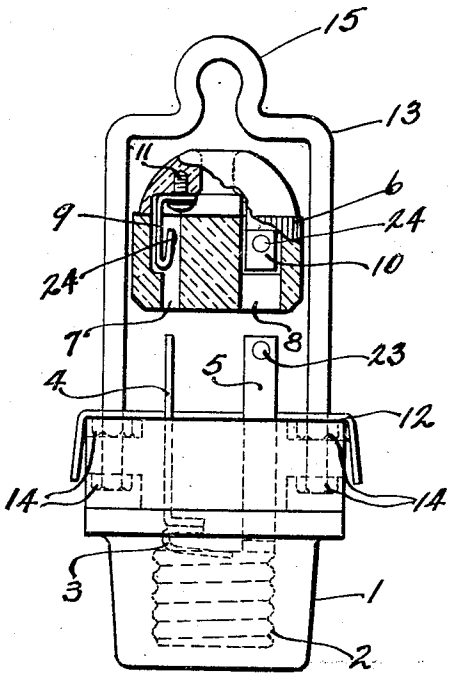


Fig.-I.

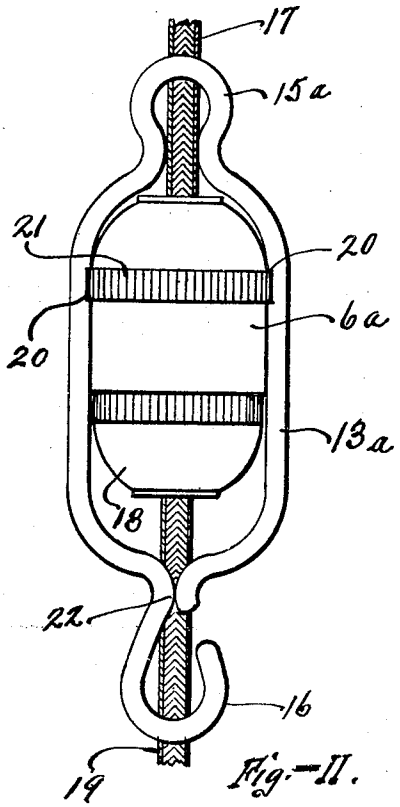


Fig.-II.

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RIGID BAILED CONNECTER AND CONNECTER SOCKET

Application filed September 30, 1929. Serial No. 396,214.

This invention relates to electrical sockets, and more particularly to lamp-sockets, this expression being used however as a broad designation for sockets adapted to receive lamps and many other articles of the various types for which such sockets are used in electrical circuits.

My present application is in part a division of my application Serial No. 189,058 filed May 5, 1927, and in part a continuation thereof, certain improvements in structure being also disclosed and claimed.

There is a present tendency to increase the size of individual incandescent electrical lamps, with an attendant increase in weight of the lighting unit, comprising the lamp, its shade and fittings, so that a heavy suspended unit of this character can no longer depend with safety for its support on the ordinary insulated conductors which have sufficed for the lighter units.

These large units also require greater care, and could be more readily cleaned and otherwise handled were they readily detachable, with their sockets, from their supports, and also from the electrical conductors associated therewith.

Existing lamp sockets of the conventional type are not constructed however to permit ready detachment from their mechanical and electrical connections, and an important object of the present invention is to provide a lamp socket corresponding closely in general appearance and structure with the conventional socket, but adapted for ready disconnection, with the lamp and its shade and other fittings constituting a lighting unit, from the electrical conductors and from the suspending means, whatever the character of the latter may be, as for example a chain, with which the conductor may be associated, or an insulated conductor specially constructed to afford the increasing degree of mechanical strength.

In pursuance of this object, and other important objects of the invention, which are duly illustrated and described herein, I have devised a novel socket having a threaded receptacle of substantially the usual form to receive a lamp or similar article to be screwed therein, and having the usual, or suitable, electrical contact terminals to co-operate with those on the base of a lamp or corresponding article, my improved socket being provided also with auxiliary electrical contact terminals adapted to co-operate with appropriate contact terminals on a connecter-member connected with the electrical conductors from which the socket derives its supply of current.

In accordance with the invention, the socket is provided also with a mechanical connection, such as a hook, or a bail, (a bail only being shown in Fig. 1, although mechanics skilled in the art will readily understand that the upper loop of the bail may be readily formed into a hook for engagement with overhead supports) by means of which it may be hung upon a supporting chain or with some other readily connectible and disconnectible mechanical device to permit its support in desired position, the mechanical and electrical connections being preferably so positioned relatively to each other that when the lighting unit is removed by unhooking the socket from its supporting chain, or is otherwise disconnected from its support, the user can effect the electrical disconnection by simply pulling the socket away from the terminals of the connecter member, ample room being provided for this operation inside the loop of the bail.

Conversely, the connections may be effected by "plugging in" the electrical connections and hooking the unit on its chain, in a manner easily understood by the average user, and not requiring the services of an electrician.

A further object of the invention is to provide the improved socket with such a removable connecter member, these two parts constituting a unitary structure which can be sold to the user as a complete article of manufacture, and can be installed without special tools, involving no risk in the installation, as the connecter-member can be removed from the socket and connected to the supply conductors first, and is then ready to have the socket terminals plugged in, in the usual manner.

In a modified form of the invention, I have substituted for the socket member a plugging

member cooperating with a receptacle member, connectible and disconnectible electrically by movement in a plane with a wire bail or loop engaging one of the members and embracing within its loop the other member, wires for supplying current being engageable with one member while wires connectible with the other carry the current to a lamp or fixture. Either end of the loop or bail is provided with a hook for engaging with a support, as a chain. While the other end may be provided with an eye for receiving a hook.

The invention may be readily understood from the following description together with the accompanying drawing wherein:

Figure 1 shows the invention provided with threaded socket to receive a lamp.

Figure 2 shows the connecter members neither of which is provided with a socket for a lamp.

Proceeding in accordance with the drawing of Figure 1, 1 is a socket member formed usually of porcelain or other suitable material being provided with threaded metal, member 2, as shown by dotted lines for receiving threadedly a lamp (not shown). The lamp being provided with a contact for cooperation with contact 3 which connects with blade 4. Blade 5 contacting with threaded member 2 whereby electrical contact is provided with the lamp in the conventional manner. Blades 4 and 5 are adapted for plugging into receptacle 6 through apertures 7 and 8 and engaging with contacts 9 and 10 to which supply wires (not shown) are connected as by screws 11, thus completing the circuit to the lamp.

A shade support or holder 12 may be provided, which serves to support a reflector glass globe or the like.

A bail 13 is secured to socket member 1, as by projecting at its open end through openings in member 1, and being provided with threaded sections whereby nuts 14 shown in dotted section engage the ends of the loop and bear against member 1. The upper or closed end of the bail is provided as at 15 with an eye-like section for receiving supporting means, as a hook from an overhead chain, not shown. That section of the bail as at 15 may be formed into a hook for engagement as with a link of a chain if desired. It will be noted that the bail is of such length as to provide conveniently for movement of receptacle 6 within the bail enclosure, to permit of ready plugging engagement and disengagement of blades 4 and 5 with contacts 9 and 10, and that receptacle 6 is of proper proportions as to be freely movable without contacting with the bail.

The operation is as follows:

Supply wires are connected by screws 11 to contacts 9 and 10 of receptacle 6 and support the latter adjacent the lower end of the overhead support, such as a chain provided with a hook at its lower end. The contacts 9 and 10 being wholly contained in receptacle 6, no danger of accidental engagement therewith exists. Socket 1, with bail asembled and lamp screwed thereinto, may then be brought into position and blades 4 and 5 plugged into receptacle 6, thus completing the electrical circuit and the hook not shown carried by the overhead support, engaged with the bail. The structure is then in operable assembly. It will readily be seen that to disassemble the structure, it remains for the user to merely disengage the hook from the bail and remove the receptacle member 6 from engagement with the blades of member 1.

A modified form of the invention is shown in Figure 11 wherein a bail 13*a* is provided at one end with an eye 15*a* at one end and a hook 16 at the other, although it will be readily understood that both ends may be formed as either a hook or as an eye. Supply wires 17 are connected with the contacts of receptacle 6*a* as with receptacle 6 of Figure I. A member 18 provided with blades as 4 and 5 of Figure I, for plugging engagement with recepetacle member 6*a* to complete the electrical contacts. Wires 19 carry the current to the lamp or fixture.

Receptacle member 6*a* and plug member 18 are similar to those shown in my prior application Serial Number 396,213 filed September 30, 1929 which may be referred to for a more detailed description. Bail 13*a* engages with receptacle 6*a* to secure the latter within the loop section of the bail as by providing recesses 20 in ribbed section 21 of receptacle 6*a*. When plug 18 is engaged with receptacle 6*a* it will thereby be secured within the loop of bail 13*a*. This loop is of sufficient length to provide for the plugging engagement and disengagement of plug 18 with receptacle 6*a* therewithin.

Loop 13*a* may be formed open as at 22 so it may be sprung open to facilitate the assembly of the loop with receptacle 6*a* if desired, or closed if preferred.

The operation of this modified form of my invention is as follows:

Receptacle 6*a* has supply wires 17 connected therewith and bail 13*a* engaged therewith at the recesses 20 in ribbed section 21. Wires 19 are connected with receptacle 18 and with the lamp or fixture. A support from the ceiling, not shown, having a hook is engaged with the eye 15*a* of the bail. Member 18 is plugged into engagement with receptacle 6*a* by blades 4 and 5, thus establishing the electrical circuit and the fixture or lamp with which wires 19 connect is engaged by hook 16 at the lower end of the bail. To disassemble, the hook 16 is disengaged from the fixture and member 18 is disengaged by a single simple movement from receptacle 6*a*. Blades 4 and 5 in either form of the invention shown may be provided with depressions 23 to re-

ceive projections 24 on contacts 9 and 10 of the receptacle whereby to secure the plug and receptacle against accidental or unintentional disengagement.

With either of the forms of the invention shown, an extremely strong mechanical support is assured and a structure that is readily connectible and disconnectible both mechanically and electrically.

The invention is novel in several respects and possesses utility readily appreciable by ordinary users of electrical lighting fixtures as well as by those skilled in the arts of manufacture and installation of such fixtures.

What I claim is:

1. A connecter-socket comprising in a unitary structure a connecter-member adapted to be connected permanently to electrical conductors; and a lamp socket member provided with means for plugging into said connecter member, said connecter-socket being further characterized by means extending outside of and over the connecter member for mechanically supporting said unitary connecter-socket structure, said means comprising a bail mounted rigidly on said lamp socket member.

2. A connecter-socket comprising in a unitary structure a connecter-member adapted to be connected permanently to electrical conductors; and a lamp socket member provided with means for plugging into said connecter member, said connecter-socket being further characterized by means extending outside of the connecter member for mechanically supporting said unitary connecter-socket structure said means comprising a bail mounted rigidly on said lamp socket member and of sufficient length to permit play of said receptacle member therein for connection and disconnection.

3. A two part electrical connecter, one of said parts connecting by plugging engagement with the other, whereby to establish electrical connection therewith, one of said parts being supported by a bail member which latter surrounds and projects beyond said other connecter part to permit of the plugging and unplugging freely between said parts.

4. An electrical connecter device comprising a chain link readily connectible with and disconnectible from other chain links, said first named link surrounding both parts of a two part plugging electrical connecter so as to permit of the plugging engagement and disengagement between the parts by movement within the loop along the axis of the link.

5. A connecter-socket comprising in a unitary structure a connecter-member adapted to be connected permanently to electrical conductors; and a lamp socket member provided with means for plugging into said connecter member, said connecter-socket being further characterized by means extending outside of the connecter member for mechanically supporting said unitary connecter-socket structure, said means comprising a bail mounted rigidly on said lamp socket member and of sufficient length to permit play of said connecter member therein for connection and disconnection.

In testimony whereof, I have signed this specification.

HENRY D'OLIER, JR.