

May 1, 1934.

C. M. COLE

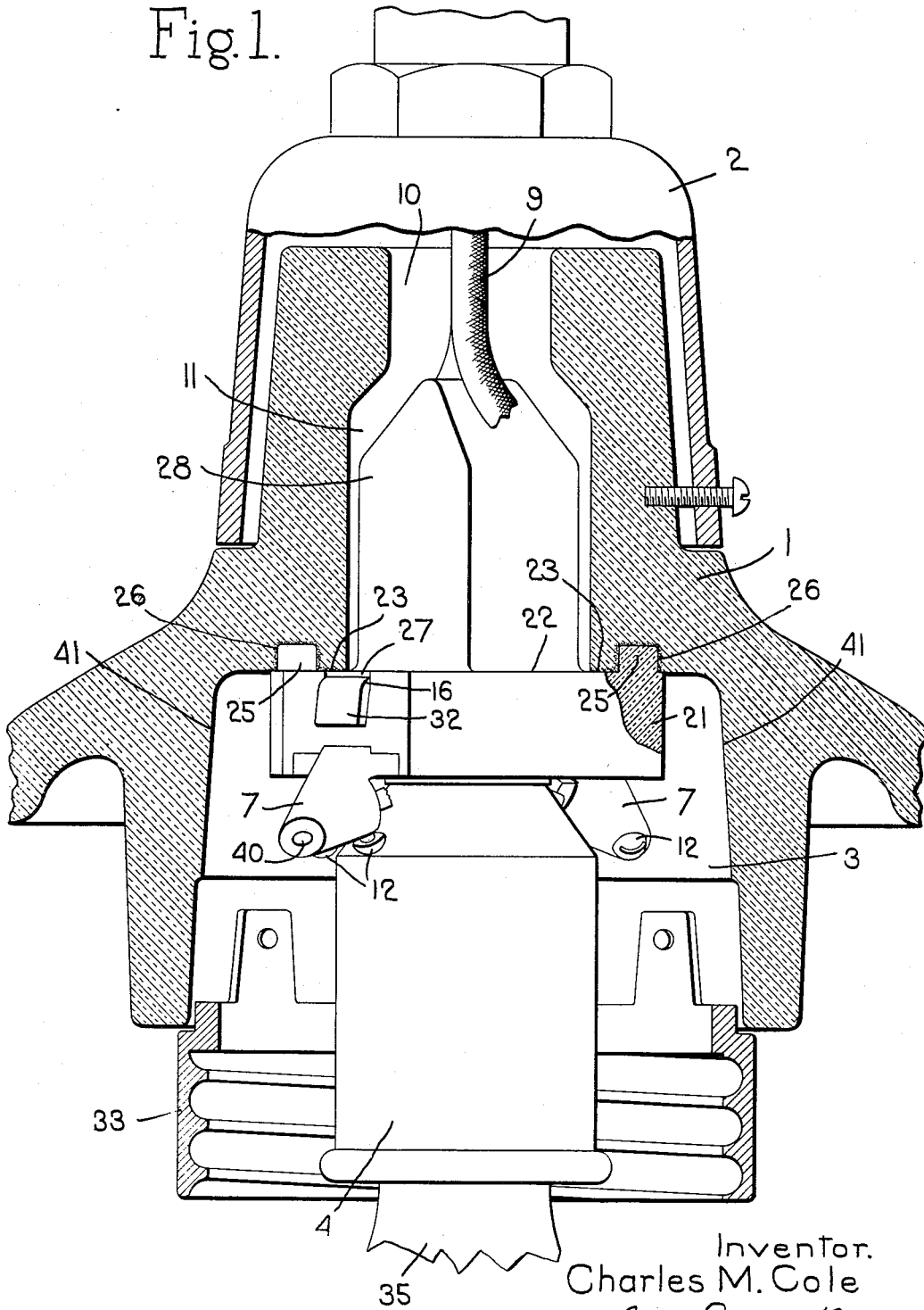
1,956,754

RECEPTACLE HEAD FOR ELECTRIC LIGHTS

Filed April 9, 1932

2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

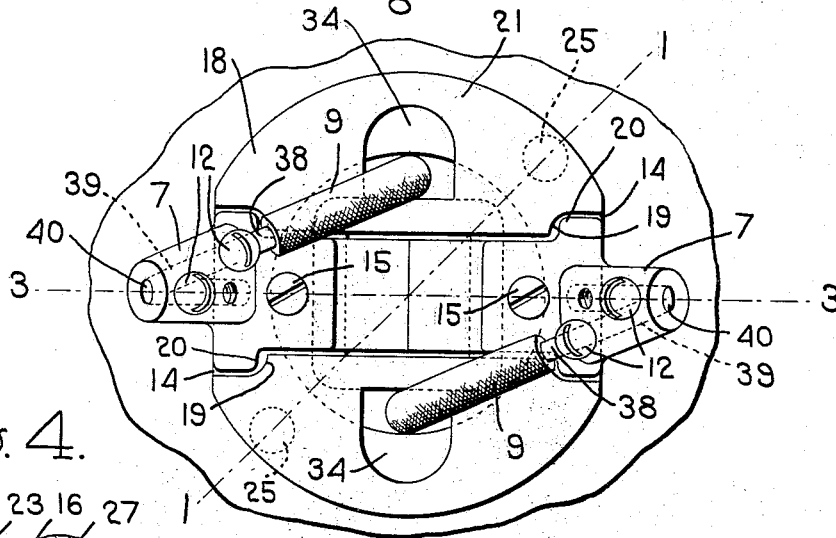


Fig. 4.

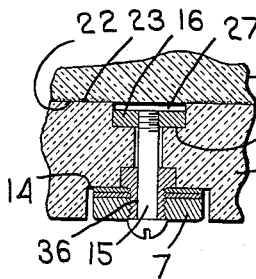
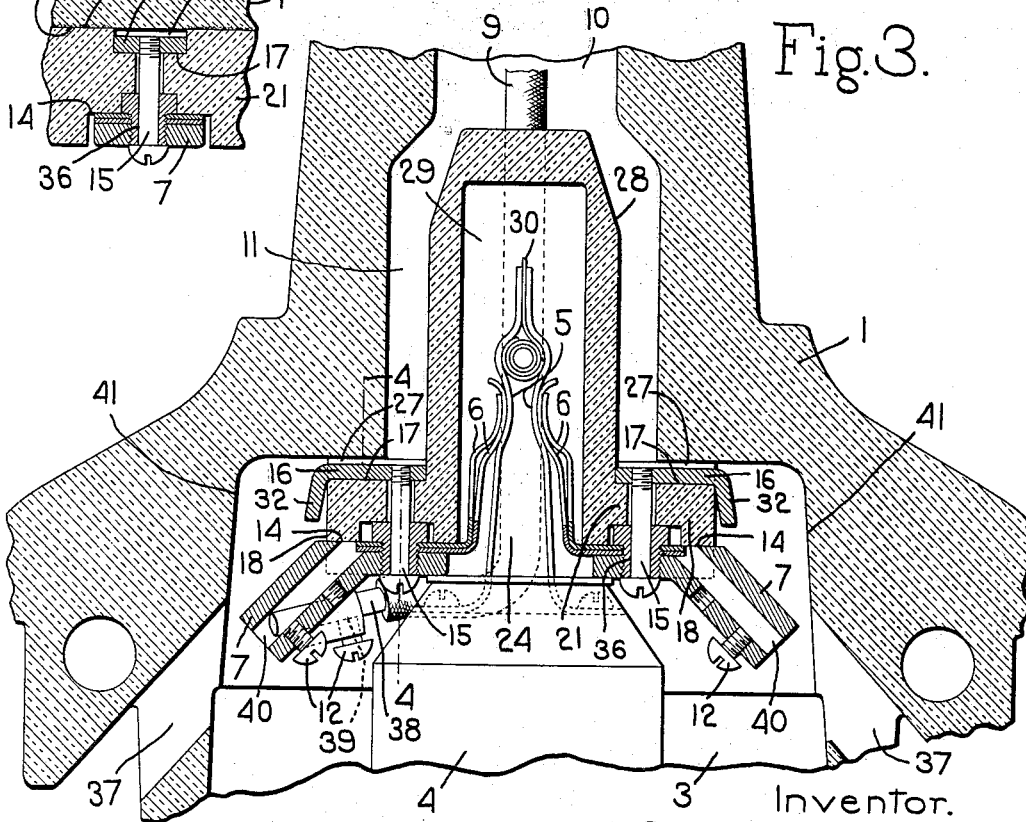


Fig. 3.



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# UNITED STATES PATENT OFFICE

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## RECEPTACLE HEAD FOR ELECTRIC LIGHTS

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Application April 9, 1932, Serial No. 604,249

5 Claims. (Cl. 173—328)

This invention relates to receptacle heads such as are used in street lighting systems where the lights are connected in series and it has for its principal object to provide a novel construction by which the wiring terminals are rigidly secured in position and in such a way that they can be readily removed or replaced as occasion requires.

In these receptacle heads the insulator member is formed with a chamber in which the wiring terminals and receptacle or lamp socket are located and the lamp socket is provided with bayonet contacts which are retained between resilient contact arms carried by the wiring terminals.

One way which has been heretofore employed for securing each wiring terminal to the insulator member has been by means of a screw which extended through the body of the wiring terminal and had screw-threaded engagement with a lead anchoring member which occupied a recess formed in the insulating member. One disadvantage of this construction results from the fact that because of the ductility of the lead any strain whether continued or intermittent to which the wiring terminals are subjected will cause the lead to flow slightly with the result that the anchoring member is apt to become loosened so that it fails to hold the wiring terminal securely in place.

As stated above one of the objects of my present invention is to provide an improved construction by which the wiring terminal will be rigidly retained in place by means which will not be affected by any strain to which the wiring terminal may be subjected.

In carrying out my invention I provide the insulator member with a terminal-supporting portion for each wiring terminal, each terminal-supporting portion presenting a lower face or seat against which the wiring terminal rests and an upper face to receive an anchoring member, and I employ a clamping screw which extends through the wiring terminal and through said supporting portion and screw threads into the anchoring member. When the screw is tightened the wiring terminal is clamped firmly and rigidly against the supporting portion of the insulator. The construction is such that the anchoring member can be readily placed into or removed from position after the clamping screw has been loosened so that either wiring terminal can be readily installed in the insulator or removed therefrom.

In one form of my invention the terminal-supporting portions are formed on a supporting

member of insulating material which is originally made separate from the insulator member but is permanently fused or united thereto and in this embodiment the construction is such that the wiring terminals may be clamped to the supporting member after the latter has been permanently united with the insulator.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

Fig. 1 is a fragmentary sectional view through a receptacle head embodying my invention taken on the line 1—1, Fig. 2 but showing the terminal-supporting member in elevation;

Fig. 2 is a fragmentary bottom plan view of Fig. 1;

Fig. 3 is a fragmentary sectional view through a receptacle head taken on the line 3—3, Fig. 2;

Fig. 4 is a section on the line 4—4, Fig. 3.

In the drawings 1 indicates the insulator member of the receptacle head and which is made of porcelain or any other suitable material, it being secured to the usual metal crown member 2 and being formed with the chamber 3 in which the wiring terminals and lamp receptacle are contained, and also supporting the usual reflector holder 33.

The receptacle or lamp socket in which the lamp 35 is supported is shown at 4 and this is of the bayonet series type, it having the bayonet arms 5 extending therefrom which are received between resilient contacts 6 that are secured to the wiring terminals 7.

The insulator herein shown is for so-called inside wiring, that is, one in which the circuit wires 9 are introduced into the insulator 1 through an opening 10 at its upper end, said wires passing down through the enlarged portion 11 of the opening 10 and being connected to the wiring terminals 7, the latter having binding screws 12 which lock the bared ends of the circuit wires to the wiring terminal.

The parts thus far described are such as are usually found in receptacle heads of this type and as stated above the present invention relates to the means employed for anchoring the wiring terminals 7 in position.

The insulator 1 is provided with two terminal-supporting portions 13, each portion presenting a downwardly-facing seat 14 against which the body of the wiring terminal rests, and said wiring terminal is clamped firmly to said seat by means of a clamping screw 15 which extends through the

wiring terminal and through an aperture in the terminal-supporting portion and has screw-threaded engagement with an anchoring member 16 that has engagement with a seat 17 with which the terminal-supporting portion 18 of the insulator is provided.

The seat 14 is in the form of a recess formed in the under side of the terminal-supporting portion 18 and this recess is wider at the outer end than at the inner end thereby presenting shoulders 19. The body of the wiring terminal is made wider at its outer end thereby providing complementary shoulders 20 which by engagement with the shoulders 19 serve to properly position the wiring terminal in the recess.

In the construction herein shown the terminal-supporting portions 18 are formed on a terminal-supporting member 21 which is made as a separate element from the insulator body but is permanently secured thereto. This terminal-supporting member 21, which is made of porcelain or some other insulating material, is in the form of a disk having a flat upper face 22 which rests against a flat face 23 forming the roof of the shoulder 3 in the insulator 1, said supporting member 21 having a central opening 24 through which the resilient contacts 6 and bayonet arms 5 extend.

This terminal-supporting member 21 is formed with a plurality of projections 25 on its upper face which are received in recesses 26 formed in the insulator body 1.

The terminal-supporting member 21 may be permanently and rigidly secured to the insulator 1 in any suitable way. One convenient way is to coat the contacting surfaces 22, 23 of the insulator 1 and the terminal-supporting member 21 with some spar or other vitreous material by which the two parts can be fused together and also to fill the recesses 26 with such fusing material and then to assemble the terminal-supporting member 21 and insulator in proper relation and place them in a kiln or subject them to heat treatment by which the two parts become fused together.

This terminal-supporting member 21 is formed on its upper face with a recess 27 to receive each anchoring member 16, the bottom of the recess constituting the face or seat 17 against which the anchoring member 16 engages. The terminal-supporting member 21 is of such size relative to the chamber 3 that there is sufficient space between the periphery of the terminal-supporting member 21 and the wall 41 of the chamber to permit the anchoring member 16 to be readily inserted into or removed from the recess 27.

In making the receptacle head the insulator 1 and the terminal-supporting member 21 will be assembled and permanently united by fusing as above described before the wiring terminals 7 are placed in the receptacle head and if the receptacle head is one to be used for inside wiring as herein shown the terminal-supporting member 21 will preferably have a hollow extension 28 to provide a closed chamber 29 in which the bayonet arms 5 and contacts 6 are received, the purpose of this being to prevent the insulating film 30 between the ends of the bayonet arms from becoming wet due to any moisture entering the insulator through the opening 10.

After the terminal-supporting member 21 has thus been fused to the insulator 1 then the anchoring members 16 may be slipped into the recesses 27, the space between the periphery of the member 21 and the wall 41 of the recess 3 being sufficient to permit this operation, and

the wiring terminals 7 placed in position against the seats 14 and the clamping screws 15 inserted and screw threaded to the anchoring members thereby clamping the wiring terminals firmly to the terminal-supporting portions 18.

The engagement of the shoulders 19 and 20 serve to position each wiring terminal properly and each anchoring member 16 is shown as being L-shaped and as having a downturned end 32 which by its engagement with the periphery of the supporting member 21 serves to position the anchoring member 16 properly so that its screw-threaded aperture is in alignment with the screw-receiving opening 36 in the wiring terminal.

There is thus provided a firm and rigid anchorage for each wiring terminal which will resist any strain to which the wiring terminals may be subjected by the operation of placing the receptacle 4 into position or removing it.

The terminal-supporting member 21 is shown as having openings 34 therethrough into which the wires 9 pass when they are led to the wiring terminals through the opening 10 at the top of the insulator.

The terminals 7 are illustrated as adapted for either so-called "inside wiring" or "outside wiring" of the receptacle head and for this purpose each terminal is provided with two wire-receiving sockets, one for receiving the bared ends 38 of the wires 9 when said wires are led down through the opening 10 as shown in the drawings and the other for receiving the bared ends of the wires when they are led into the chamber 3 from the outside through openings 37 with which the insulator 1 is provided.

The wire-receiving sockets which are adapted to receive the bared ends 38 of the wires when they are led in through the opening 10 as shown in the drawings are indicated at 39 and the wire-receiving sockets which are adapted to receive the bared ends of the wire when they are led into the opening 37 are indicated at 40.

While I have illustrated a selected embodiment of the invention I do not wish to be limited to the constructional features shown.

I claim:

1. A receptacle head for lighting fixtures comprising an insulating member having an open chamber to receive wiring terminals and a lamp receptacle, and also having a terminal-supporting portion located in said chamber and presenting a downwardly-directed terminal-receiving face for each wiring terminal and an upwardly-directed face opposite each downwardly-directed face, each upwardly-directed face extending to the outer periphery of said terminal-supporting member, a wiring terminal engaging each downwardly-directed face, an anchoring member engaging each upwardly-directed face, and a clamping screw extending through the terminal-supporting member and connecting each wiring terminal and the corresponding anchoring member and clamping them against said faces, said terminal-supporting portion having a less transverse dimension than said chamber and the periphery of said terminal-supporting member being spaced from the wall of the chamber, whereby the anchoring members may be inserted into position or removed through said space.

2. A receptacle head for lighting fixtures comprising an insulator body member having an open chamber to receive wiring terminals and a lamp receptacle, a terminal-supporting member of insulating material in said chamber, said member

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being fused to the insulator body and provided on its under face with two terminal-receiving seats and also provided with a recess above each seat to receive an anchoring member, a wiring terminal engaging each seat, an anchoring member in each recess, and a clamping screw extending through each wiring terminal and the terminal-supporting member and having screw-threaded engagement with the corresponding anchoring member, the terminal-supporting member having a less transverse dimension than said chamber and the outer periphery of said member being spaced from the wall of the chamber and said recesses opening into said space, whereby the anchoring members may be inserted into or removed from the recesses through said space.

3. A receptacle head for lighting fixtures comprising an insulator body member having a chamber for receiving a wiring terminal and having recesses in the roof of the chamber, a terminal-supporting member of insulating material engaging the roof of said chamber and having projections entering said recesses, said terminal-supporting member being permanently united to the porcelain body by a vitreous binder and having on its under face a terminal-receiving seat for each wiring terminal and also having a recess above each seat, which recess is open at the outer periphery of said member, a wiring terminal engaging each seat, an anchoring member in each recess, and clamping screws extending through the terminal-supporting member and connecting the wiring terminals and anchoring members, the periphery of said terminal-supporting member being spaced from the wall of said chamber, whereby the anchoring members may be inserted into or removed from the recesses through said space.

4. A receptacle head for lighting fixtures comprising an insulating member provided with a downwardly-opening chamber to receive a lamp receptacle and wiring terminals, said head having a terminal-supporting portion located in said chamber and provided on its under face with seats to receive the wiring terminals and also provided with a pocket above each seat, a wiring terminal engaging each seat, an anchoring member in each pocket, the outer periphery of the terminal-supporting portion being spaced from the wall of the chamber and each pocket opening at the periphery of said terminal-supporting member, the space between the terminal-supporting member and the wall of the chamber into which the pockets open being sufficient to allow the anchoring members to be readily placed into the pockets or removed therefrom through said space, and a clamping screw extending through each wiring terminal and through the terminal-supporting member and having screw-threaded engagement with the corresponding anchoring member to clamp the terminal firmly to its seat.

5. A receptacle head for lighting fixtures comprising an insulator member provided with a downwardly-opening chamber to receive a lamp receptacle and wiring terminals, a terminal-supporting member of insulating material in said chamber, said member having on its under face seats to receive the wiring terminals and also provided with a pocket above each seat which opens at the outer periphery of said terminal-supporting member, an anchoring member in each pocket, clamping screws extending through the wiring terminals and said terminal-supporting member and having screw-threaded engagement with the anchoring members to clamp the terminals firmly to their seats, there being sufficient space between the periphery of the terminal-supporting member and the wall of the chamber to allow the anchoring members to be readily inserted into the pockets or removed therefrom through said space, and means independent from the clamping screws for securing the terminal-supporting member to the insulator member.

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