June 8, 1926. 1,587,748

R. B. BENJAMIN ET AL

OUTLET FITTING

Filed March 19, 1917 3 Sheets-Sheet 1

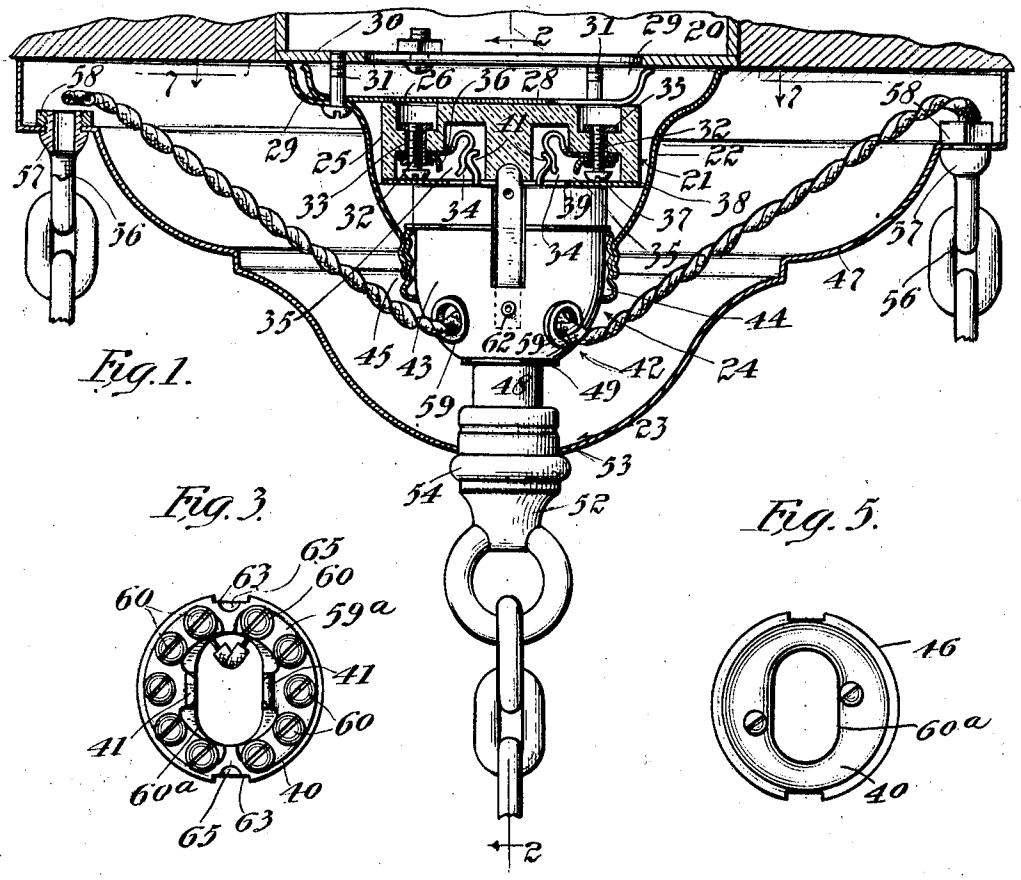

Fig. 1.

Fig. 3.

Fig. 5.

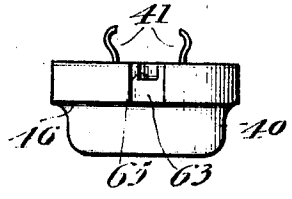

Fig. 4.

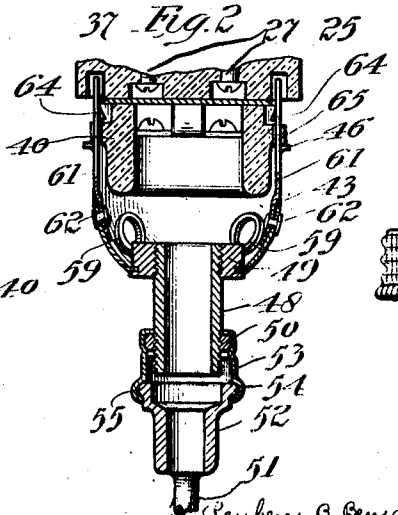

Fig. 2.

Fig. 6.

Witnesses:

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Inventor:

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OUTLET FITTING

Filed March 19, 1917 3 Sheets-Sheet 2

Fig. 10.

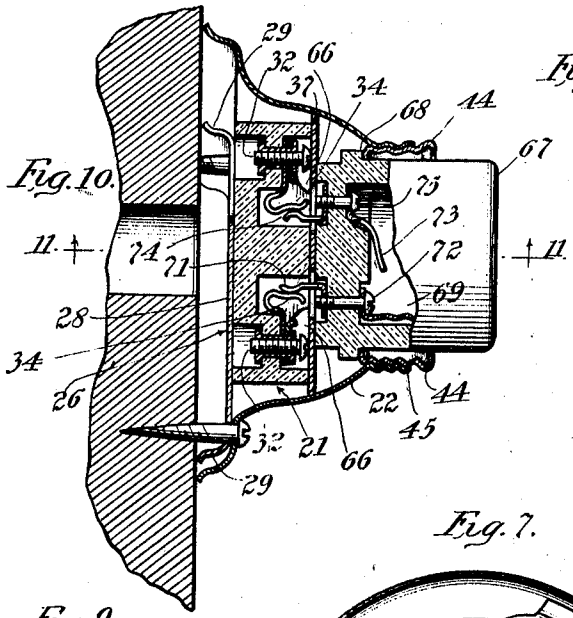


Fig. 11.

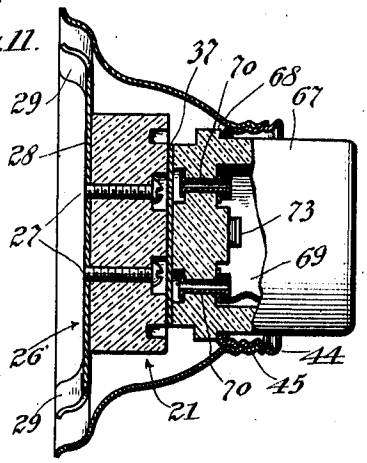


Fig. 7.

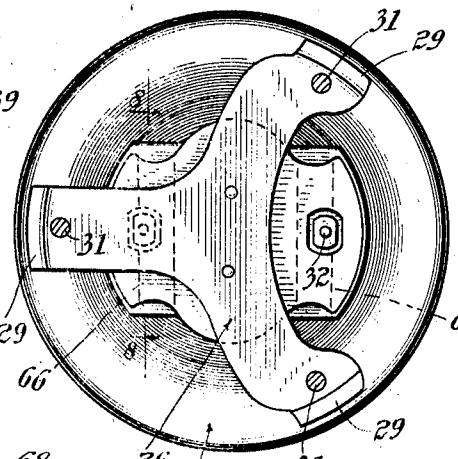


Fig. 9.

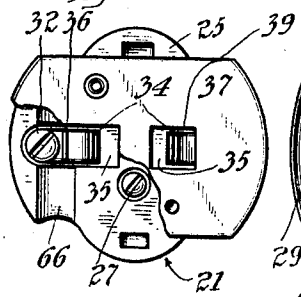


Fig. 8.

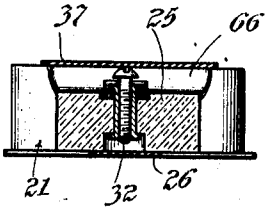


Fig. 12.

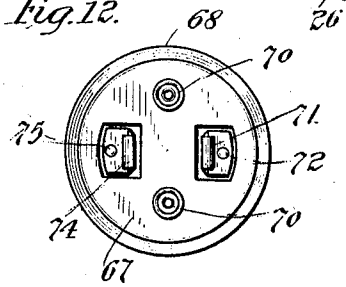
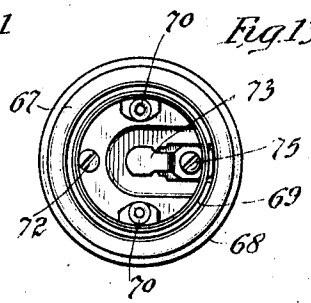


Fig. 13.



Witnesses:
W. C. Smith

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R. B. BENJAMIN ET AL

OUTLET FITTING

Filed March 19, 1917 3 Sheets-Sheet 3

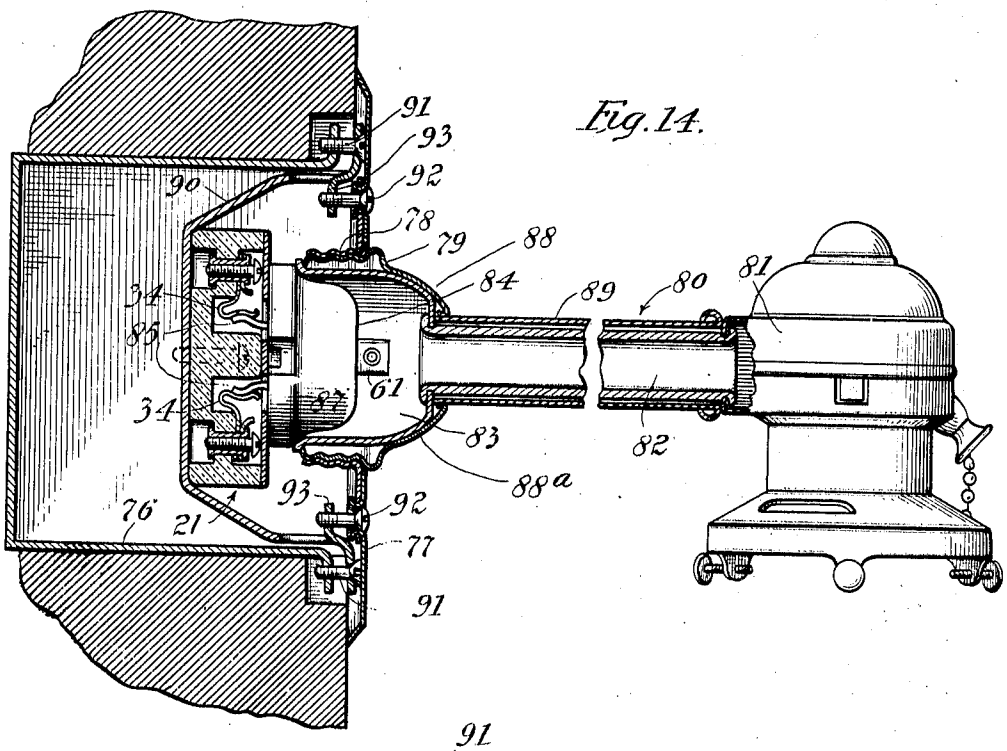

Fig. 14.

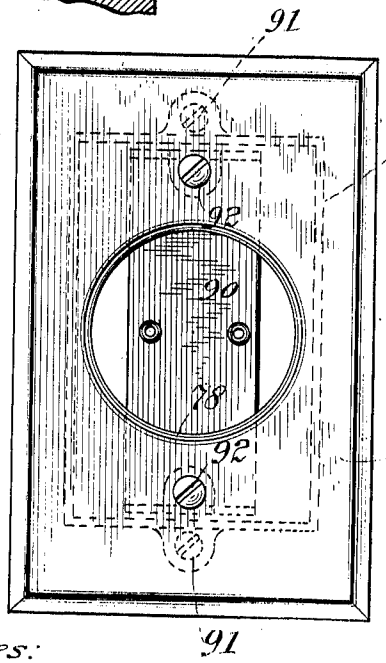

Fig. 15.

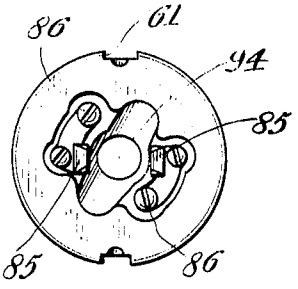

Fig. 16.

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Patented June 8, 1926. 1,587,748

UNITED STATES PATENT OFFICE.

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OUTLET FITTING.

Application filed March 19, 1917. Serial No. 155,910.

Our invention relates to outlet fittings.

One of the objects of our invention is to provide improved means whereby various electrical fixtures and devices can be interchangeably installed quickly and easily and without disturbing the wiring system. Further objects will appear from the detailed description to follow and the appended claims.

In the drawings, in which various embodiments of our invention are shown—

Fig. 1 is a vertical axial section showing an outlet-box and cover and an electrical device, such as a lamp-fixture, supported in proper position with respect to the outlet;

Fig. 2 is a section on the line 2—2 of Fig. 1, showing the connection between the wiring base and the electrical device;

Fig. 3 is a top plan view of a quick-detachable connector-member;

Fig. 4 is a side elevation of the connector-member shown in Fig. 3;

Fig. 5 is a bottom plan view of the connector-member of Fig. 3;

Fig. 6 is a side elevation of a retaining ring which assists in holding the detachable connector of Fig. 3 in proper position with respect to the wiring base;

Fig. 7 is a horizontal section on the line 7—7 of Fig. 1, showing the wiring base and its support and the cover for the outlet;

Fig. 8 is a section on the line 8—8 of Fig. 7;

Fig. 9 is a bottom view of the wiring base;

Fig. 10 is a vertical axial section showing an outlet and cover, a wiring base, and a receptacle having a quick-detachable connection with the wiring base, this being another embodiment of our invention;

Fig. 11 is a section on the line 11—11 of Fig. 10;

Fig. 12 is a rear elevation of the receptacle shown in Fig. 10;

Fig. 13 is a front elevation of the receptacle shown in Fig. 10;

Fig. 14 is a vertical axial section showing an outlet, a cover, a wiring base, and an angle-socket fixture supported in proper position with respect to the outlet;

Fig. 15 is a front elevation of the outlet and cover of Fig. 14, the wiring base and angle-socket not being shown; and

Fig. 16 is a face view of a quick-detachable connector such as shown in Fig. 14.

Referring now to the drawings in detail, and first to the form shown in Figs. 1 to 9, inclusive, these figures show the outlet-box 20 of an electrical outlet, a wiring base 21 supported in proper position with respect to the outlet, a cover 22 of sheet metal for the outlet 20, an electrical device, such as a lamp-fixture 23 supplied with current from the outlet, and a connecting-device 24 for detachably supporting the electrical device in proper position with respect to the wiring base.

The wiring base 21 comprises an insulating base 25 having flat parallel inner and outer faces, and a sheet-metal support 26 secured to the insulating base 25 by means of screws 27. The sheet-metal support 26 comprises a flat plate portion 28, which lies against the insulating base 25, and a plurality of legs 29 formed integral with the plate portion 28 and struck up therefrom, which bear against an inwardly-extending flange 30 on the outlet-box to space the insulating base 25 from the outlet, to provide clearance for the conductors of the outlet. The support 26 and the cover 22 for the outlet are held in proper position with respect to the outlet by means of screws 31, which extend through openings in a flange portion on the cover 22 and through openings in the support 26, and are threaded into the flange 30.

The insulating base 25 supports a pair of binding-terminals and a pair of quick-detachable contacts electrically connected with the binding-terminals. Each binding-terminal comprises a binding-screw 32 located between the planes of the inner and outer faces of the wiring base, threaded into an eyelet-member 33 secured to the insulating base 25. Each quick-detachable contact comprises a curved spring contact-member 34, which is secured to the insulating base 25 by means of the eyelet-member 33, into which the screw 32 is threaded. The insulating base 25 is provided with recesses 35, in which the spring contacts 34 and the heads of the binding-screws 32 are located. Each binding-screw is provided with a sheet-metal retaining-member 36 for holding the end of the conducting wire in proper position with re-

spect to the binding-screw. In order to prevent accidental contact with the binding-screws and associated parts, an insulating shield 37, which may be of fibre, is pivotally mounted on the insulating base 25 at 38, so that it can be swung to one side when the base is being wired and can then be swung into position to cover the heads of the binding-screws, after the base has been wired. This insulating shield is provided with suitable openings 39 to permit access to the spring contacts 34.

The connecting-device 24 comprises an insulating base or cap 40 provided with contacts 41 for quick-detachable engagement with the spring contacts 34, a supporting or connecting-device 42 having a cup portion 43 for receiving the cap 40, and a threaded retaining-ring 44 threaded inside the entrance portion 45 of the outlet-cover 22, the inner end of which ring engages an annular shoulder 46 on the cup 43 to hold the cup in position.

For supporting the pan or cover 47 of the fixture, a pipe 48 is threaded into a bushing 49, which is secured to the cup 43, and a nut or collar 50 is threaded on to the pipe 48 below the cover 47.

If it is desired to support a lamp directly beneath the outlet, a chain-supporting ring 51 having a tubular shank 52 may be connected in swivel fashion to the collar 50 by means of a sheet-metal connecting-member 53 having a portion flanged over the collar 50 and a portion 54 flanged over a bead or shoulder 55 on the tubular shank 52. The connection between the flange portion 54 and the shoulder 55 may be loose enough to permit the tubular shank 52 to swivel freely. If it is desired to support a lamp to one side of the axis of the outlet, chain-rings 56 having tubular threaded shank portions 57 may be secured to the cover 47 by inserting the threaded shank portions through openings in the cover and securing them in place by means of nuts 58 threaded on to the shank portions.

The cup 43 is provided with a plurality of openings 59 to afford a passage for the conductors which lead to the chain-rings 56. The conductor which leads to the chain-ring 51 extends through the pipe 48 and the tubular shank 52.

In order to provide binding-terminals for all of the conductors which lead to the chain-rings 51 and 56, each one of the quick-detachable contacts 41 is provided with a plurality of binding-terminals. This is accomplished by providing for each contact 41 an arcuate binding-plate 59^a which may be formed integral with the contacts. Each arcuate binding-plate 59^a is secured to the cap 40 and is provided with a plurality of binding-screws 60 threaded into it, from which the conductors lead through the opening 60^a of the cap to the openings 59 in the cup and to the passage in the pipe 48.

In order to hold the cap 40 in the cup 43 and prevent rotation of the cup with respect to the cap, a pair of spring tongues 61 is secured to the cup 43 by means of eyelets 62 and engage notches 63 in the edge of the cap 40. In order that the cap 40 may be separated from the wiring base by pulling on the cup 43, the spring tongues 61 are provided with catches 64, which snap over the shoulders 65 of the cap 40 to hold the cap securely in the cup.

In assembling and wiring this device, the conductors of the outlet 20 are first secured to the binding-screws 32, the conductors extending up past the edge of the insulating block 25 and being led through the channels 66 shown in Fig. 8 in the outer face of the insulating base to the binding-screws. The shield 37 is then swung on its pivot to cover the heads of the binding-screws. The cover 22 is than slipped over the wiring base and the screws 31 are put in place and screwed into the flange 30 to hold the cover 22 and the wiring base 25 permanently in position. This part of the wiring system does not need to be disturbed thereafter in interchanging the various electrical devices which it may be desired to use. The nut 50 is unscrewed from the pipe 48 in wiring the lamp, and the cover 47 is slipped down on the pipe, or may be slipped completely off it. The chain-rings 56 may remain in position on the cover 47. The conductors from the central lamp are led up through the opening in the tubular portion 52 of the chain-rings, through the nut 50 and the pipe 48 to the cup 43, and through the opening 60^a in the cap 40. The conductors from the lamps supported by the chain-rings 56 are threaded up through the openings in the tubular portions 57 of these links, and through the openings 59 in the cup 43 and the opening 60^a in the cap 40. The ends of the conductors from the various lamps are then connected to the proper binding-screws 60, one wire from each lamp being connected to one of the binding-plates 59^a, and the other wire from the same lamp being connected to the other binding-plate 59^a. The cover 47 is then slipped up on the pipe 48, and the nut 50 is threaded on to the lower end of the pipe to hold the cover in position. The nut 50 can be threaded on the stem without twisting the conductors which extend through the chain-ring 51, as this chain-ring is swiveled with respect to the nut 50 and does not rotate therewith.

Referring now to the form of our invention shown in Figs. 10, 11, 12 and 13, the wiring base 21, outlet cover 22, and threaded retaining-ring 44 may be the same as in the form just described in connection with Figs. 1 to 9, inclusive. In this form, however, the

threaded retaining-ring 44 is used to hold in position with respect to the wiring base a receptacle having shell and center contacts for an insertable device, and provided with quick-detachable contacts for engagement with the spring contacts 34 of the wiring base. The receptacle comprises an insulating base 67 having an annular shoulder 68 which is engaged by the inner edge of the threaded sheet-metal retaining-ring 44 to hold the insulating base 67 in position with respect to the wiring base 21. A threaded shell contact 69 is secured in a recess in the insulating base 67 by means of eyelets 70. The shell contact 69 is electrically and mechanically connected to a quick-detachable contact 71, which engages one of the spring contacts 34, by means of a screw 72. The center contact 73 of the receptacle is connected to the quick-detachable contact 74 by means of a screw 75.

In assembling this device, after the wiring base and the outlet cover are in position, the receptacle is inserted through the threaded entrance 45 of the cover and the contacts 71 and 74 are brought into engagement with the spring contacts 34 of the wiring base. The threaded retaining-ring 44 is then screwed inside the threaded entrance portion 45 to hold the receptacle securely in position.

In the form of our invention shown in Figs. 14, 15 and 16, the wiring base 21 may be substantially the same as in the forms previously described. In this form of our invention, however, the wiring base is shown located in an outlet box 76 having a substantially flush cover 77, into the threaded entrance 78 of which is screwed a retaining-member 79, which holds the angle-socket fixture 80 in proper position with respect to the outlet. The angle-socket fixture comprises an angular socket 81 which may be of any usual or suitable type, a pipe 82, one end of which is connected to the angular socket 81, and a cup-shaped member 83 to which the other end of the pipe 82 is connected, for receiving a connecting-member or cap 84, provided with contacts 85 for engagement with the spring contacts 34 of the wiring base. The cap 84 is provided with binding-terminals 86, connected with the contacts 85, respectively, to which may be connected the conductors leading to the angle-socket 81. The cap 84 is also provided with a shoulder portion 87, securely engaged by the inner edge of the retaining-member 79, whereby the cap 84 and the cup 83 are held firmly in position with respect to the wiring base. The rounded portion 88 of the retaining-member 79 may engage the rounded portion 88^a of the cup member 83, to assist in holding the cup member in position. If desired, a finishing tube 89 of brass or other suitable material may be sleeved over the tube 82. The cap 84 may be held in position with respect to the cup 83 by means of the spring tongues 61 secured to the cup, engaging the notches 63 in the cap 40, as in the form shown in Figs. 1 to 9, inclusive.

The wiring base 21 may be mounted on a U-shaped sheet-metal strap 90, secured to the outlet-box by means of screws 91. The cover 77 for the outlet may be secured in position by means of screws 92, extending through openings in the cover and threaded into ears 93 struck up from the strap 90.

In wiring the angle-socket fixture, the conductors from the socket 81 are led through the pipe 82 and through the opening 94 in the cap 84, and are then connected with the binding-terminals 86. The contacts 85 are then clamped into engagement with the spring contacts 34, and the retaining-member 79 is screwed into the threaded entrance 78 of the outlet cover, to hold the fixture firmly in position with respect to the outlet.

We claim:

1. In combination with an outlet box having a cover plate, a pipe connection, a plug and a sectional electrical connection for an electric lighting fixture, one of said sections being secured to the box and the other being supported by the mounting for the fixture, of a collar on the inner end of the pipe connection to which the section is connected, the plug having threaded engagement with the cover for the outlet box, and engaging the collar at its inner end.

2. In combination with an outlet box having a cover plate, a pipe connection, a plug and a sectional electrical connection for a light fixture, one section being secured to the box and the other being supported by the pipe, of a collar on the inner end of the said connection to which the section is connected, the plug made rotatable on the pipe connection and having a detachable engagement with the cover plate and engaging the collar at its inner end, said connection being a threaded connection.

3. In combination with an outlet box having a cover plate, a pipe connection, a plug and a sectional electrical connection for a light fixture, one section being secured to the box and the other being supported by the pipe, of a collar on the inner end of the said connection to which the section is connected, the plug made rotatable on the pipe connection and having a detachable engagement with the cover plate and engaging the collar at its inner end.

In witness whereof, we have hereunto subscribed our names.

REUBEN B. BENJAMIN.
THOMAS H. HARRIS.