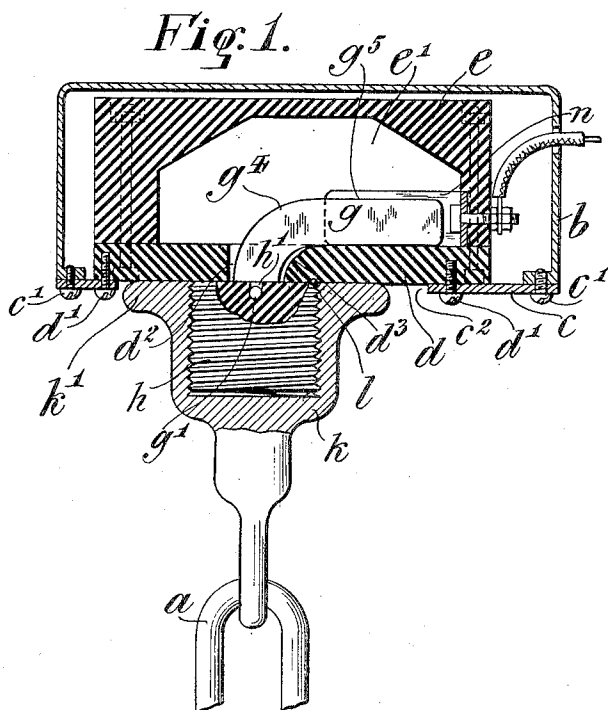
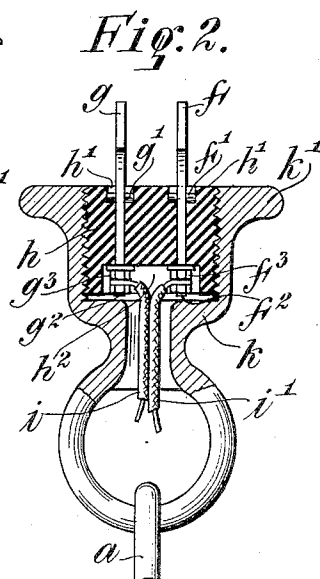
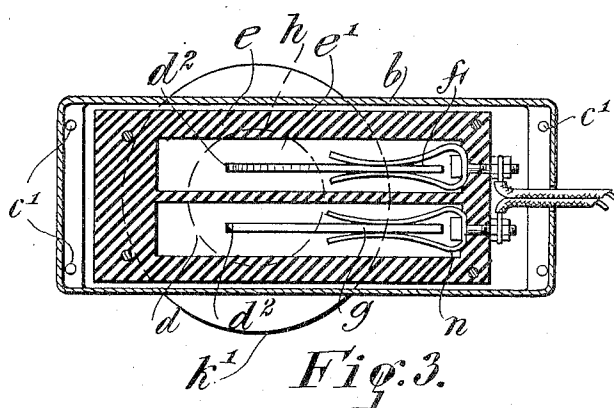


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ELECTRICAL CONNECTING AND SUPPORTING DEVICE.
APPLICATION FILED JAN. 10, 1920.

1,364,335.

Patented Jan. 4, 1921.



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ELECTRICAL CONNECTING AND SUPPORTING DEVICE

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST CANTELO WHITE, a citizen of the United States, residing in the borough of Bronx of the city of New York, in the State of New York, have invented certain new and useful Improvements in Electrical Connecting and Supporting Devices, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

In another application filed by the present applicant on January 10, 1920, Ser. No. 350,688 there is shown and described and claimed broadly an electrical connecting and supporting device designed primarily with reference to the universal attachment of lighting fixtures to ceilings but useful for the support of electrical attachments of any character on surfaces inclined at any angle to the horizontal. The invention sought to be covered broadly in said application contemplated the use of a receptacle provided with curved grooves through which extend curved conductors on which is supported the electrical attachment and with which are associated operative means to lock the conductors in place. In the embodiment illustrated in said application and in an embodiment of the same invention disclosed in another application Ser. No. 350,689 filed January 10, 1920, the slots and conductor arms are shown as reversely curved so that the turning moments set up on the arms by the weight of the fixture would be equal and opposite and thereby equalized. The present embodiment while based on the same principle, broadly, involves a structural relation of parts in which the conductor arms have imposed thereon couples which are equalized solely by devices which cooperate with the arms and the receptacle. In this embodiment the conductor arms extend in the same general direction after passing through the grooves in the receptacle and the receptacle or some element carried thereby is so disposed with relation to the arms as to afford a bearing surface therefor, the arms being clamped in position by means of devices which are external to the plate. The general object of the invention is to maintain the simplicity and facility for attachment which is a characteristic of the invention, broadly considered, while providing a modified relation of parts for attaining the de-

sired results. Still another object is to provide a construction in which the conductor arms may be carried on the same insulating block.

Reference is now to be had to the drawing for a detailed description of one suitable embodiment of the invention, in which drawing;

Figure 1 is a view in section through a flush receptacle showing the relation thereto of the improved connecting and supporting devices.

Fig 2 is a view in transverse section through the insulating block on which the arms are carried and showing the clamping ring on the block.

Fig. 3 is a detail view in plan showing the relation of the conductor arms to one another.

As pointed out in the other two copending applications it may be assumed that a pendant support for a lighting fixture or other electrical attachment is indicated at *a* and that this support is to be attached in accordance with the invention to a suitable outlet box *b* which may be laid in a ceiling. The box *b* has at its lower edge a plate *c* secured thereto as by means of screws *c'* and this plate is provided with a central opening *c²* adapted to be closed by an insulating face plate *d* which may conveniently be supported on the reverse face of the plate *c* and secured thereto by screws *d'*. Above the insulating plate *d* may be supported an insulating block *e* to receive the conductor arms *f*, *g* and their respective terminals, one of which is illustrated generally at *n*. The block *e* and the plate *d* form a receptacle chambered as at *e'*. These terminals may be of any approved form having, for instance, opposed spring arms to engage the respective conductors yieldingly when the conductors are placed in position. The terminals will, of course, be connected to the leads of any available source of current supply.

The plate *d* is provided with grooves, one of which *d²* to receive the conductor arm *g* is shown in cross sectional relation to the plate in Fig. 1. The other groove to receive the conductor arm *f* will be placed in the plate at a distance from the groove *d²* determined by the distance between the two conductors. The outer ends of the conductor arms *f*, *g*, are secured to an insulating block

h which in the most convenient form is cylindrical and threaded exteriorly. The conductors f, g are shown as extending through the channels in the block h and as being limited in their downward movement through the block by means of studs f', g' , respectively, resting in recesses h' formed in the end wall of the block, which studs may either pass through the conductors or be fixed to the faces thereof. The lower ends of the conductors f, g are shown as terminating in threaded studs f^2, g^2 , respectively, with which cooperate lock nuts f^2, g^2 for holding the conductors in place. The studs f^2, g^2 may serve as binding posts for the wires i, i' of the electrical attachment which is carried on the pendant support a . The lower end of the block h is recessed, as at h^2 , to receive the necessary elements composing the locking and electrical connecting devices for the conductors f, g . Cooperating with the insulating block h , when the latter is of cylindrical form, is a locking ring k which is preferably formed with an annular flange k' at its upper end for cooperation with the exposed face of the plate d when the conductors f, g are clamped in proper position.

The conductors f, g are of peculiar form having their lower ends terminating in straightened portions which pass longitudinally through the block h in the manner hereinbefore described, their middle portions, one of which is indicated at g^4 , for the arm g , curved, and their inner ends straightened, one of which is indicated at g^5 for the arm f and preferably extending generally at right angles to the first named straightened portion. The groove d^2 through which the arm g extends is curved at one side, as at d^3 , along an arc concentric with the arc of curvature of the central portion g^4 of the arm and the center for both such arcs is indicated at a point l which lies on or outside of the periphery of the block h to permit the arm g to be passed up through the groove and withdrawn therefrom. When the arm g is in position the curved edge of the portion g^4 will bear snugly against the curved portion d^3 of the groove d^2 . At the other side of the arm g the groove d^2 may extend at right angles to the face of the plate d and afford sufficient clearance for some lateral movement of the arm g in the groove during its introduction and withdrawal.

The method of assembling and disassembling the parts will now be described. An electrical attachment or fixture of any desired form is assumed to be carried on the pendant support a which is operatively engaged with the ring k . This ring when disengaged from the block h will permit the fixture wires i, i' to be readily connected electrically to the conductor arms f, g , as through the binding posts f^2, g^2 . The invention is not to be limited to any precise

means for attaching the arms f, g to the block h nor to the means for connecting the conductor arms electrically with the attachment or fixture. The block h , whether or not the wires i, i' are first connected to the conductor arms or are connected later, is then manipulated in such manner as to pass the arms f, g upwardly through their respective grooves, the groove d^2 for the arm g being illustrated. The straightened ends of the arms, one of which is illustrated at g^5 , will pass straight upwardly through the grooves and will then be swung as the curved portions of the arms, one of which is indicated at g^4 , conform to the curved edges of the respective grooves, one of which is illustrated at d^3 . The relation of the center l to the periphery of the block h will permit the arms to be swung about the curved edges of the grooves until the inner ends of the arms, such as g^5 , will bear on the reverse face of the plate and be in engagement with the respective terminals, such as h , at which time, the upper end of the block h will lie flush against the exposed face of the plate d . The ring k will then be screwed on to the block h and finally its upper edge, preferably flanged at k' to give an extended bearing surface, will be drawn against the face of the plate d . The arms f, g when in place will have imposed thereon couples acting about the centers of curvature, such as l , which will constantly tend to withdraw the arms through these slots. Such couples will be opposed by counter couples set up through the engagement of the upper edge of the ring k with the plate d . This ring when screwed home will draw the straightened ends such as g^5 of the arms f, g into snug engagement with the reverse face of the plate d and the plate will be clamped between the arms and the ring.

As pointed out before changes in details as concerns form and relationship of the various mechanical and electrical devices may be made without departing from the scope of the invention so long as such modifications afford an electrical connecting and supporting device which functions in accordance with the principles described herein.

I claim as my invention:

1. An electrical connecting and supporting device including a receptacle formed with entrance openings and provided with terminals, and a plug member including fixture supporting means, bent conducting and supporting members extending in substantially the same direction to engage the terminals, and insulating means between the fixture supporting means and said conducting members, said receptacle and terminals including bearing surfaces within the receptacle for the sides of the conducting and supporting members nearest to the plug member, said plug member and fixture supporting means in-

cluding means to clamp the conducting and supporting members against said bearing surfaces.

5 2. An electrical connecting and supporting device including a receptacle formed with entrance openings and provided with terminals, and a plug member including a threaded fixture supporting member, bent
10 ing in substantially the same direction and engaging the terminals, and an insulating block to which said conducting and supporting members are secured and on which said threaded member is screwed, said receptacle
15 and terminals including bearing surfaces within the receptacle for the sides of the conducting and supporting members nearest to the plug member, said threaded member

clamping the conducting and supporting members against said bearing surfaces. 20

3. A plug for a ceiling electrical connecting and supporting device including fixture supporting means, two conducting and supporting members extending in the same direction to enter a receptacle of the device and
25 engage terminals and bearing surfaces therein, and insulating means for the fixture supporting means and said conducting members, said plug member and fixture supporting means including means to clamp the
30 conducting and supporting members against said bearing surfaces.

This specification signed this 19th day of December A. D. 1919.

ERNEST CANTELO WHITE.