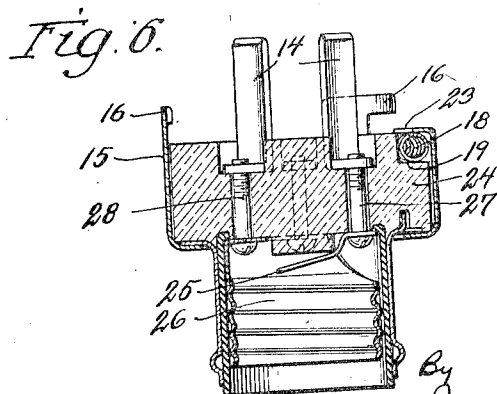
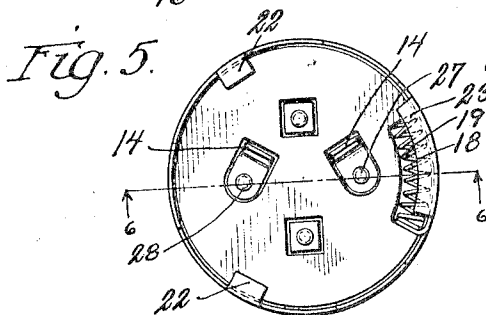
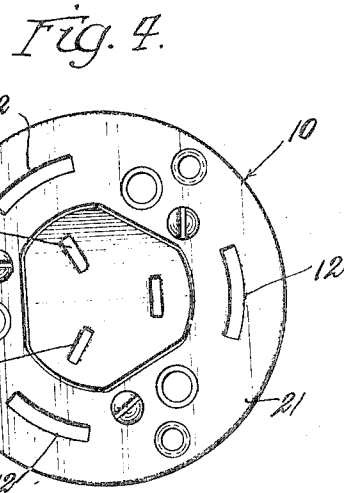
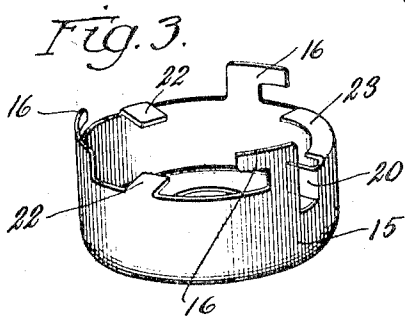
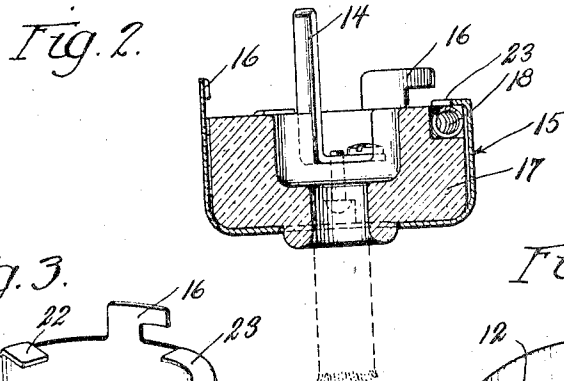
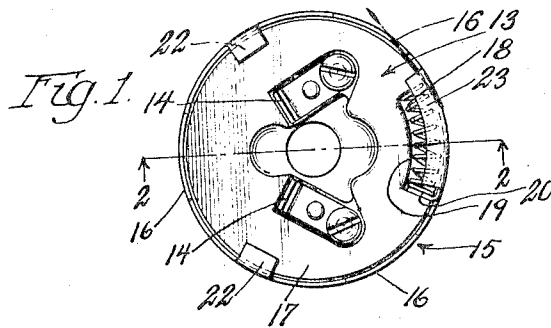


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R. B. BENJAMIN
CEILING CONNECTER DEVICE

Filed Jan. 19, 1922



Inventor.
Reuben B. Benjamin
By Jones, Addington, Ames & Seibold Attys.

UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CEILING-CONNECTER DEVICE.

Application filed January 19, 1922. Serial No. 530,257.

My invention relates to electrical connector devices, and more particularly to ceiling connector devices.

In ceiling outlets applicant considers it sometimes not advisable to provide a receptacle which will receive the standard cap of a separable attachment plug. One reason for this is that if a receptacle were provided that would receive the blades of an attachment plug cap, a person inexperienced in fixture hanging might construct or make a device in the way of a ceiling fixture, depending solely on the engagement of the blades of the cap with the ceiling receptacle contacts to hold the device in position. Such engagement would, of course, be insufficient and would probably result in the cap blades slipping out of the receptacle, letting the lighting device fall, probably breaking the fixture or whatever it might fall on.

On the other hand, it is sometimes desirable to be able to plug in adjacent the ceiling outlet with a standard plug-in device.

One of the objects of my invention is to provide an electrical connector device for a ceiling outlet comprising a receptacle which will not receive the blades of a separable attachment plug cap, but which will nevertheless enable the outlet to be adapted to receive a standard plug.

A further object of my invention is to provide an improved construction of ceiling connector device which will be durable and efficient in use, simple in construction and cheap to manufacture.

Further objects will appear from the detailed description to follow and from the appended claims.

In the drawings in which an embodiment of my invention is shown—

Figure 1 is a top plan view of an electrical connector device;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the swiveled hook member;

Fig. 4 is a bottom plan view of the ceiling receptacle;

Fig. 5 is a top plan view of a different form of connector device which can be used with the receptacle shown in Fig. 4; and

Fig. 6 is a section on the line 6—6 of Fig. 5.

Referring first to Figs. 1, 2, 3 and 4, the construction shown therein comprises the ceiling receptacle 10, shown in Fig. 4, provided with contact blade-receiving openings 11, and hook-receiving openings 12, and an electrical connector device 13, provided with contact blades 14 for entering the contact-receiving openings 11, and having a swivel member 15 (Fig. 3) provided with a plurality of hook members 16 for entry into the hook-receiving openings 12.

The swivel member 15 may be a sort of sheet metal cup, swiveled on the insulating base 17 on which the contact blades 14 are mounted. The swivel member 15 has a limited swivel motion on the insulating base 17 so that the hook members 15 may be turned to be brought into holding engagement with respect to the receptacle after the contact blades 14 and hook members 16 have entered their respective openings provided therefor in the receptacle.

In order to hold the hook members 16 in holding engagement after they have entered the hook-receiving openings 12, I provide a coil compression spring 18, this coil compression spring being located in a circumferentially extending arcuate recess 19 in the insulating base 17. One end of this coil compression spring 18 bears against the end wall of the recess 19, and the other end bears against an inwardly extending lug 20 formed integral with the swivel member 15. The spring 19 thus tends to force the swivel cup 15 in one direction, and the insulating base 16 in the other direction, and this action of the spring is such that it will hold the hook members 15 connected after they have been inserted into the hook-receiving openings 12.

In connecting the device in position with respect to the receptacle, the blades 14 are first placed in position to enter the blade-receiving openings 11, the connector is pushed inwardly until the hooks engage or are about to engage the plate 21 in which the hook-receiving openings 12 are located, the swivel cup 15 is then rotated against the action of the compression spring 19 until the points of the hooks are free to be pushed into the hook-receiving openings 12, and the device is then pushed inwardly until the points of the hooks pass the plate 21, when the cup-shaped swivel member 15 may be released to

permit the spring 19 to turn the swivel member 15 about the insulating base 16 to bring the points of the hooks in back of the plate 21.

5 In order to hold the cup-shaped swivel member 15 in position on the insulating base, it is provided with a number of inwardly extending lugs 22 and 23, which overhang the insulating base.

10 One of these lugs 23 is of considerable extent and overlies the recess 19 in which the spring 18 is located, thereby serving to hold the spring 18 in place in the recess.

The construction shown in Figs. 5 and 6 15 is quite similar to that just described in connection with Figs. 1, 2 and 3, except that here a receptacle of the Edison type is mounted on the underside of the insulating base 24, the contacts 25 and 26 of the Edison 20 receptacle being electrically connected respectively with the contact blades 14 by means of the screws 27 and 28. These screws 27 and 28 not only serve to electrically connect the contacts, but also to hold them in 25 place on the insulating base; otherwise, the construction is substantially the same as in the form previously described.

In this form, the device is connected by placing the blades 14 in position to enter the 30 openings 11, pushing upwardly on the device until the hook members 16 engage or are about to engage the plate 21, then turning the swivel ring 15 until the hooks 16 are in position to enter the openings 12, then pushing 35 up on the device until the points of the hooks 16 are in back of the plate 21, and then allowing the spring 19 to turn the swivel member 15 to bring the members 16 into engaging position with respect to the 40 plate 21.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is—

1. A connector comprising contact blades 45 for entering blade-receiving openings and a hook member having hooks for entering hook-receiving openings, said hook member being mounted to swivel about said blades, whereby said hooks may be turned into holding 50 engagement after the blades and hooks have entered their respective openings, and spring means acting between said blades and swiveled member tending to effect relative swiveling motion between said blades and 55 hook member for holding said hooks in connected position.

2. A connector comprising a circular insulating base, contact blades mounted on said 60 base for entering blade-receiving openings, a member swiveled on said insulating base and provided with hooks for entering hook-receiving openings, whereby said member may be turned to bring said hooks into holding engagement after the blades and 65 hooks have entered their respective openings,

and spring means acting between said blades and swiveled member tending to effect relative swiveling motion between said insulating base and swivel member for holding said hooks in connected position.

3. A connector comprising a circular insulating base, contact blades mounted on said 70 base for entering blade-receiving openings, a member swiveled on said insulating base and provided with hooks for entering said hook-receiving openings, whereby said member 75 may be turned to bring said hooks into holding engagement after the blades and hooks have entered their respective openings, and spring means tending to effect relative 80 swiveling motion between said insulating base and swivel member for holding said hooks in connected position, said spring means comprising a spring extending substantially circumferentially of said base, and 85 bearing at one end on said base and at the other end on said swivel member.

4. A connector comprising a circular insulating base, contact blades mounted on 90 said base for entering blade-receiving openings, a member swiveled on said insulating base and provided with hooks for entering hook-receiving openings, whereby said member may be turned to bring said hooks into 95 holding engagement after the blades and hooks have entered their respective openings, and spring means tending to effect relative swiveling motion between said insulating base and swivel member for holding 100 said hooks in connected position, said insulating base having a circumferentially extending recess therein to receive said spring.

5. A connector comprising a circular insulating base, contact blades mounted on 105 said base for entering blade-receiving openings, a member swiveled on said insulating base and provided with hooks for entering hook-receiving openings, whereby said member may be turned to bring said hooks into 110 holding engagement after the blades and hooks have entered their respective openings, and spring means tending to effect relative swiveling motion between said insulating base and swivel member for holding 115 said hooks in connected position, said insulating base having a circumferentially extending recess therein to receive said spring, and said swivel member having a portion overlying said recess to hold said 120 spring in place.

6. A connector comprising a circular insulating base, contact blades mounted on said 125 base for entering blade-receiving openings, a member swiveled on said insulating base and provided with hooks for entering hook-receiving openings, whereby said member may be turned to bring said hooks into holding engagement after the blades and hooks 130 have entered their respective openings, and spring means tending to effect relative

swiveling motion between said insulating base and swivel member for holding said hooks in connected position, said insulating base having a circumferentially extending recess therein to receive said spring, said swivel member having a lug extending into said circumferentially extending recess against one end of which said spring bears, the other end of said spring bearing against the end of the recess. 10

In witness whereof, I have hereunto subscribed my name.

REUBEN B. BENJAMIN.