F. TRESSELT.

ELECTRICAL FITTING.

APPLICATION FILED JUNE 22, 1917.

1,291,268.

Patented Jan. 14, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

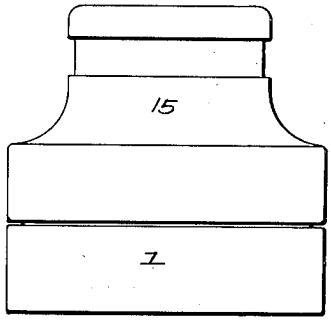


Fig. 2.

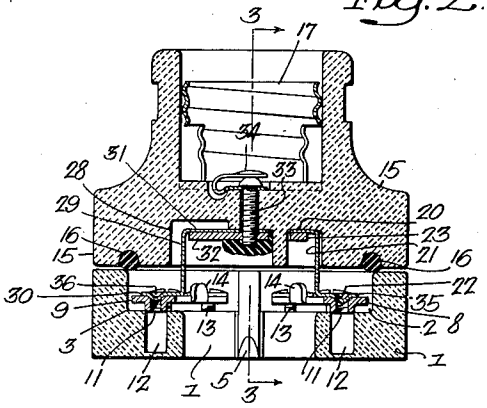


Fig. 5.

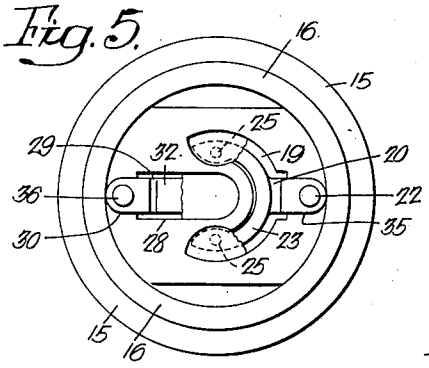


Fig. 4.

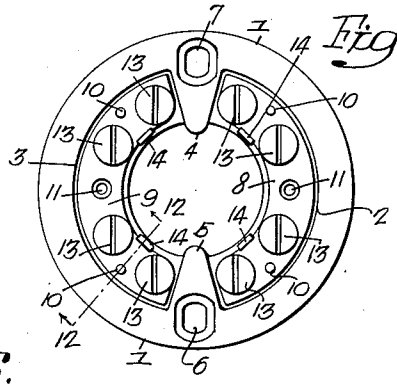


Fig. 3.

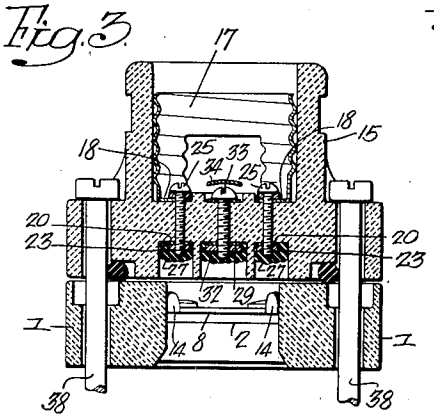


Fig. 6.

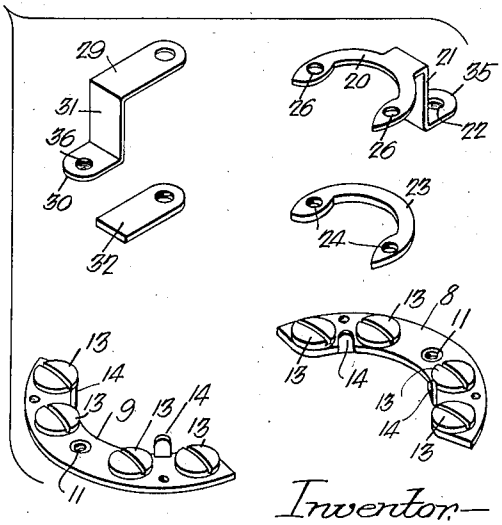
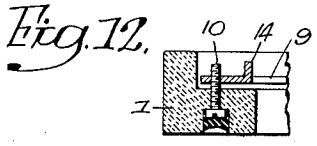


Fig. 12.



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2 SHEETS—SHEET 2.

Fig. 7.

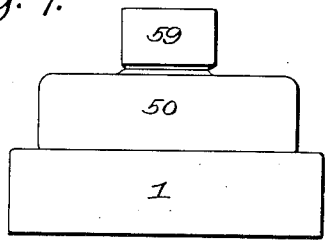


Fig. 8.

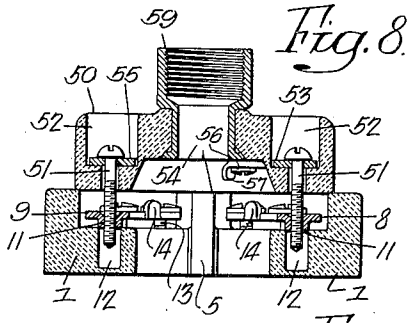


Fig. 14.

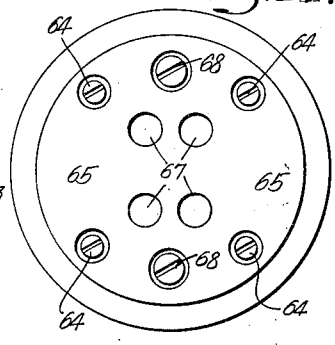


Fig. 10.

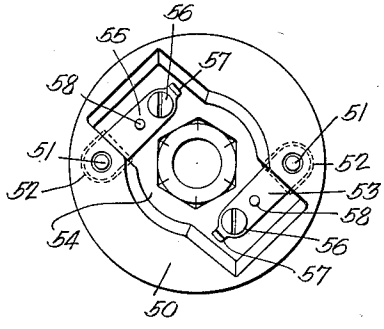


Fig. 11.

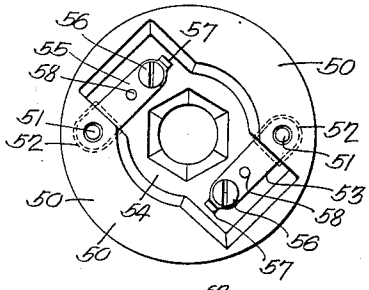


Fig. 9.

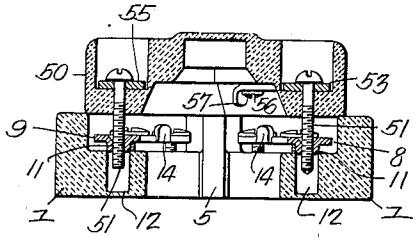


Fig. 13.

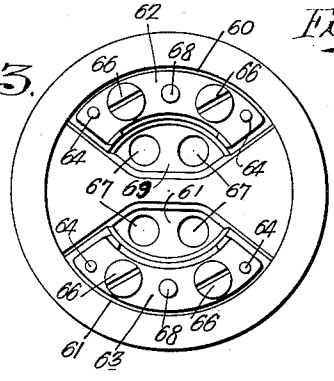
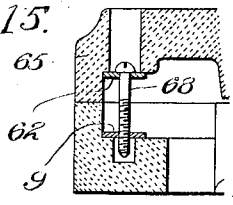


Fig. 15.



Inventor—

Fritz Tresselt

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Howson & Howson

UNITED STATES PATENT OFFICE.

FRITZ TRESSELT, OF PASSAIC PARK, NEW JERSEY, ASSIGNOR TO V. V. FITTINGS COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ELECTRICAL FITTING.

1,291,268. Specification of Letters Patent. Patented Jan. 14, 1919.

Application filed June 22, 1917. Serial No. 176,387.

To all whom it may concern:

Be it known that I, FRITZ TRESSELT, a citizen of the United States, residing in Passaic Park, Passaic county, State of New Jersey, have invented Electrical Fittings, of which the following is a specification.

One object of this invention is to provide a noval form of outlet box fitting particularly adapted for the reception and convenient connection of main and branch wires, the device including a base member having terminals of novel form, especially constructed not only for the attachment of the wires belonging to a plurality of circuits but also for coöperation with holding means for retaining the cap or cover of said base member.

Another object of the invention is to provide an outlet fixture with terminals of relatively simple and substantial form constructed to serve both as structures to which a cap or cover may be held and also as portions of an electrical circuit.

I also desire to provide an outlet fitting of the above noted type with novel means for conducting current from line terminals in the base member to other terminals in a cap or cover member, as well as to one or more branch circuits; the arrangement of parts being such as to avoid the necessity for soldered joints.

It is further desired to provide an outlet fitting including a cover member together with the necessary terminals for the connection of a plurality of branch circuits in said member, the construction being such that the fitting may have connected into it the two wires of a main circuit, the conductors leading through a cover to one or more local circuits and other pairs of conductors belonging to one or more branch circuits.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which,

Figure 1 is a side elevation of a fitting constructed according to my invention;

Fig. 2 is a central vertical section of the fitting shown in Fig. 1;

Fig. 3 is a vertical section on the line 3—3, Fig. 2;

Figs. 4 and 5 are a plan and an inverted plan of the base and cap sections respectively;

Fig. 6 is a detached perspective of certain of the metallic structures forming part of the fitting;

Fig. 7 is a side elevation showing a fitting having the same base but a cap different from that of the fitting shown in Fig. 1;

Fig. 8 is a central vertical section of the device shown in Fig. 7;

Fig. 9 is a vertical section similar to Fig. 8, showing the fitting as provided with a modified form of cap;

Figs. 10 and 11 are inverted plans of the cap sections illustrated in Figs. 8 and 9 respectively;

Fig. 12 is a fragmentary section on the line 12—12, Fig. 4;

Figs. 13 and 14 are a plan and an inverted plan, respectively illustrating another form of cover member, and

Fig. 15 is a fragmentary vertical section illustrating the use of that form of the invention shown in Figs. 13 and 14.

In the above drawings, 1 represents the body of the base section of my improved cut-out box fitting which consists of an annular structure of insulating material such as a porcelain casting, having two substantially semi-annular recesses or depressions 2 and 3, whose adjacent ends are separated from each other by radially extending partitions 4 and 5. Passages 6 and 7 for holding screws or similar devices are formed through the body 1 at the outer parts of the two partitions respectively and on the ledge or bottom of the two recesses 2 and 3 are mounted a pair of elongated segmental terminals 8 and 9 respectively, rigidly held in place by screws 10, which, as shown in Fig. 12, project into them from suitable recesses in the base.

In the present instance each of the terminals has at its central portion a downwardly flanged and preferably countersunk opening 11 threaded for the reception of screws and formed immediately over cavities 12 in the body 1 whose lower ends are preferably though not necessarily closed as shown in Fig. 2. Each of the terminals has a plurality of pairs of binding screws 13 and in between the screws of each pair I provide a tongue or lug 14 projecting upwardly from the inner edge of the segment.

In Figs. 1, 2, 3 and 5, I have shown one form of cap or cover section which may be advantageously employed with the above

described base section and this consists of as insulated body 15 whose bottom portion is cylindrical and of the same diameter as that of the body 1 of the base section. The bottom face of this structure is provided with a circular groove for the reception of a rubber or other suitable packing ring 16 which may be of circular section and of such thickness as to project beyond the plane of the bottom face of the cap section.

The body of the cap section includes a hollow cylindrical projecting portion constituting a socket or receptacle in which is mounted a threaded socket shell 17 for the reception of a lamp, attachment plug, etc., and it is noted that the inner end of the shell has inwardly projecting flat portions 18.

The inner face of the cap body 15 has a semi-circular recess 19 in which is mounted a semi-circular metal plate 20 having a downwardly projecting extension 21 at right angles to its plane. The extremity of this extension is turned outwardly so as to lie parallel to the plane of the part 20 and it is preferably formed with a conical projection 22. A clamping plate or semi-circular washer 23 is mounted in the recess 19 over the contact plate 20 and at its extremities has two threaded openings 24 for the reception of screws 25 which pass through the parts 18 of the threaded shell, through suitable passages in the body of the cap 15, through openings 26 in the contact plate 20 and into engagement with the threads of the openings 24 in the clamping plate 23. The shell 17 and the contact plate 20 are thus rigidly connected to the cap section as well as electrically connected with each other, and the recess 19 as well as other screw receiving recesses of the device are preferably filled with some form of fusible insulating compound 27, as shown in Fig. 3, so as to completely cover and inclose the contact plate 20 and clamping plate 23.

The under face of the cap section 15 is provided with a second and radially extending recess 28 in which is mounted one end of a contact strip 29 having a free end portion 30 and an intermediate part 31. This contact strip is held in place in said recess 28 by a clamping plate 32 and a screw 33 threaded into the latter so as to extend centrally of the shell receiving recess of the cap section, at the bottom of which its head passes through and is in electrical connection with the center spring contact 34 constituting the second clamp or plug terminal of the cap. This contact terminal is of the well known form and by means of said screw is electrically connected to the contact plate 29.

The outer end 30 of this latter, like the outer end 35 of the extension 21 of the contact plate 20, is provided with a conical projection 36 and lies at substantially the same distance beyond or outside of the plane of the bottom face of the cap section. Moreover it extends opposite to the end 35, and like it being more or less resiliently supported by the structure of which it forms a part. The proportions and mountings of the various parts are such that when the cap section 15 is placed over the base section of the fitting, the conical projections of the plates 35 and 30 of the contact members 20 and 29 respectively enter or lie within the counter-sunk openings of the terminals 8 and 9 of said base section so as to electrically connect therewith, and said base and cap sections are held together by bolts or screws 38, whereby the fitting would be connected to or mounted upon an outlet or other device or structure.

Electrical connection would then be established on the one hand, from the terminal 8 through the contact plate 20 and screws 25 to the threaded shell 17, and on the other hand from the terminal 9 through the contact strip 29 and screw 33 to the central contact 34;—moisture or other objectionable materials being kept out of the interior of the fitting in the well understood manner by the packing ring 16. One advantage of the above construction resides in the fact that the main and branch wires may be connected to certain of the binding screws on the terminal plates 8 and 9 respectively and a number of branch connections, in the present case three, may be made to each of said terminals;—it being noted that the central opening of the base section is relatively large in order to permit of the free entrance or passage through it of a number of insulated conductors. In addition a local circuit or circuits may be made through the cap or cover.

By reason of the construction of the base section 1, it is possible to apply or to employ in connection with it, cap or cover sections other than that shown in Figs. 1 to 5 inclusive, and for example I may utilize the construction shown in Figs. 7, 8 and 10. In these figures, 50 represents a flattened cylindrical cover section illustrated as of a diameter less than that of the base section to which it is detachably held by screws 51 mounted in recesses 52 and threaded into the holes 11 of the terminal plates 8 and 9 of said base section. In this case the screws are utilized as parts of an electric circuit, for one of them engages the end of a plate 53 which extends from its recess 52 into a main central recess 54 on the under side of the cap section 50. Similarly the second screw electrically engages a plate 55 extending from its recesses 52 into the main recess 54, it being noted that it projects on a line substantially parallel with that of the plate 53 as shown in Fig. 10.

Each of these terminal plates, in addition to being provided with a binding screw 56 and an upturned end 57 for confining a wire to the vicinity of said screw, is rigidly held in place by the screw 58 extending into it from a suitable recess in the body of said cap section. This latter has a central opening in which is rigidly mounted the reduced end of a threaded sleeve 59 whose inner end is turned over so that it is permanently held in place. In this case, as before, the main circuit wires are respectively connected to the terminal plates 8 and 9 of the base section and connection with the plates 53 and 55 is established through the screws 51. Branch circuit wires held to said plate 53 and 55 by the binding screws 56, lead therefrom through the sleeve 59 to any suitable conduit threaded therein.

As shown in Figs. 9 and 11, the sleeve 59 may be omitted and the cap section may be employed without any outlet, in which case the central opening would be closed by an easily breakable integral disk. Obviously the wires of the branch circuit may be extended through this passage or opening and connected to the terminal plates 53 and 55 without requiring any sleeve or bushing 59.

While for many purposes the above described forms of cap or cover section are suitable, I find that the preferred form of this part of my invention is that illustrated in Figs. 13 and 14. In this case the body of the cap consists of a porcelain or other insulating casting having in its under face two recesses 60 and 61, provided with segmental ledges for the reception of a pair of segmental terminal plates 62 and 63, similar in general form to the plates 8 and 9 of the base section. These plates are held against these ledges by screws 64 mounted in counter-sunk recesses extending through the body 65 and each of them is provided with a plurality of binding screws 66.

Each of the recesses 60 and 61 has opening into it a plurality of passages 67 for the admission of the same number of conductors and in addition each of the terminal plates has mounted in it a connecting screw 68 which not only fits into the terminal plates 8 and 9 of the base so as to hold the cap section thereto, but conducts current from its terminal member to one of the terminal plates 62 or 63, (Fig. 15).

Under conditions of use of that form of cover shown in Figs. 13–15 the conductors belonging to a plurality of local circuits may be passed through the openings 67 and have their ends connected to the terminal plates 62 and 63 respectively by the binding screws 66 in the well understood manner. When therefore the conductors of the main circuit are connected to a pair of the binding screws of the base terminals 8 and 9, the connection to these latter of the screws 68 supplies current to the plurality of local circuits connected to the terminal plates 62 and 63.

In addition a number of other branch circuits, in the present case three, may be brought into the fitting through the central opening of the base section and connected to the terminal plates by the binding screws 13 without requiring any soldered connections.

It is particularly to be noted that in all of the above structures it is possible to quickly and conveniently connect one or any desired number of branch circuits to a main circuit through the terminal plates 8 and 9 and that without violating the requirements of the Board of Underwriters, since soldered joints are not necessary in view of a provision of a separate binding screw for each conductor to be connected. Moreover by the construction shown in Figs. 13 and 14, it is possible to extend into the cover and conveniently connect to the terminals thereof, a plurality of local branch circuits, again without the necessity for any soldered joints.

From the above description, it will be noted that I have provided a convenient and substantial form of outlet fitting in which the base section is of such design as to permit of the convenient connection to it of a number of forms of cap or cover sections of which certain may in themselves constitute sockets or receptacles for electro-receptive apparatus, while others may be merely provided terminals easily connected to and detachable from the main terminals of the base section and from which conductors may be extended in some cases through a pipe rigidly connected to said cap sections or merely extended from the fitting in the form of one or more drop cords.

I claim;—

1. The combination in an electrical fitting of a ring-shaped base member having oppositely placed ledges and barriers extending radially between the adjacent ends of said ledges; segmental terminal plates mounted on the ledges of the base member; a cover member of insulating material mounted on the base member; two connecting elements carried by the cover member in position to respectively engage the terminal plates of the base member and hold the two members of the fitting together; and terminals on the cover member electrically connected to the connecting elements thereof.

2. The combination in an electrical fitting of a base member having terminal plates for the attachment of main supply conductors; a cover member detachably mounted on the base member and consisting of a hollow cap of insulating material having a transverse partition forming two compartments; with terminal plates respectively

mounted in said compartments and each having a plurality of devices for the connection of conductors, there being a plurality of conductor openings into each of said compartments.

3. The combination in an electrical fitting, of a base member having terminal plates for the attachment of supply conductors; a cover member detachably mounted on the base member and consisting of a hollow cap of insulating material having a transverse partition forming two compartments; terminal plates respectively mounted in said compartments and each having a plurality of devices for attachment of conductors, there being a plurality of conductor openings into each of said compartments; with screws mechanically and electrically connecting the terminal plates of the cover member to the terminal plates of the base member.

In witness whereof I affix my signature.

FRITZ TRESSELT.