

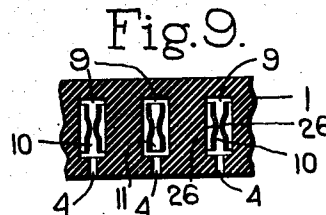
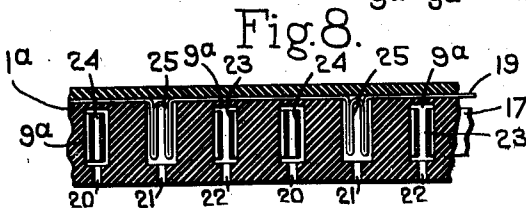
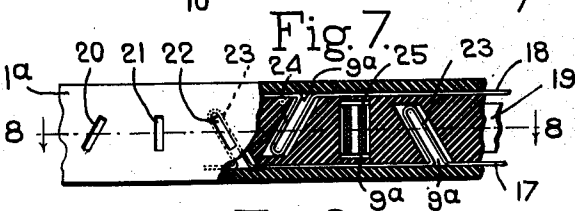
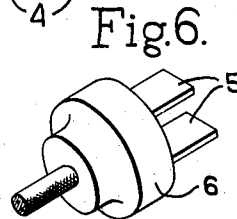
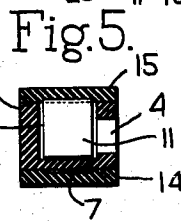
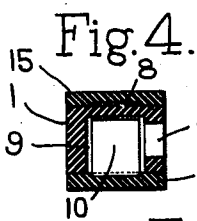
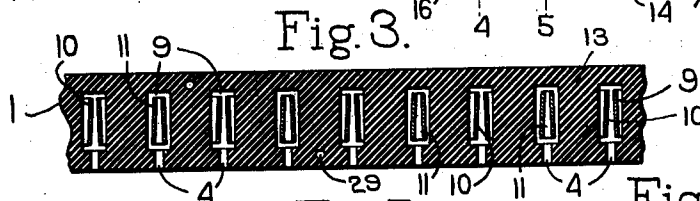
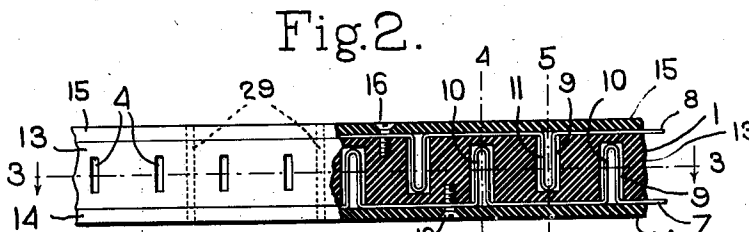
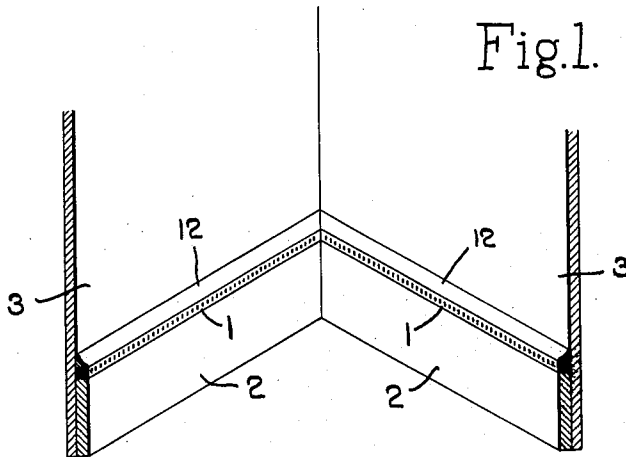
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E. C. WHITING

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CONTINUOUS CONTACT RECEPTACLE

Filed July 21, 1930



Inventor.
Ernest C. Whiting
by *Heard Smith & Tennant.*
Attys.

UNITED STATES PATENT OFFICE

ERNEST C. WHITING, OF BRIGHTON, MASSACHUSETTS

CONTINUOUS CONTACT RECEPTACLE

Application filed July 21, 1930. Serial No. 469,401.

This invention relates to a continuous contact receptacle which is capable for general use for the purpose of connecting electrical apparatus of different types such as fans, lamps, vacuum cleaners, electric signs, telephones, etc. to an operating circuit. The invention has a wide variety of uses. For instance, it may be used in building construction to provide a continuous contact receptacle around the walls of a room or at different locations in the building to provide for connecting electrical apparatus such as lamps, fans, vacuum cleaners, etc. to an operating circuit at any desired point. It may also be used as a continuous contact receptacle located in a building to enable a telephone to be plugged into the circuit at any point along the receptacle.

Another use to which it is well adapted is in the manufacture of electric signs for the continuous contact receptacle can be made in the form of letters or figures to which electric lamps may be plugged at any point along the contour of the figure to produce the illuminated sign.

When my invention is embodied in a device adapted for use in buildings for connecting the electric apparatus such as fans, lamps, vacuum cleaners, etc. to an operating circuit, I prefer to make the continuous contact receptacle in the nature of a strip which may be incorporated in the finish of the room so that it is entirely inconspicuous. Such strip may be built into the base-board of the room or into any moulding.

In the preferred embodiment of my invention the strip which constitutes the continuous contact receptacle is provided on its exposed face with a plurality of terminal-receiving openings to receive the terminals of an ordinary electric plug connection, said strip having embedded in it conductors arranged with contact portions which engage the plug terminals whenever the plug is plugged into any of the apertures.

Where the strip is built into the base board or moulding or some other part of the finish of a room it will be entirely inconspicuous and will merely present a series of terminal-receiving openings. The construction, how-

ever, is such that an electrical apparatus can be connected to the operating circuit by plugging the plug connection into the strip at any point along its length.

In order to give an understanding of the invention I have illustrated in the drawing some selected embodiments thereof which will now be described after which the novel features will be pointed out in the appended claim.

Fig. 1 is a fragmentary sectional view of a corner of a room which is equipped with my improved contact receptacle;

Fig. 2 is a front view of a continuous contact receptacle embodying my invention with a part broken out;

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

Fig. 4 is a section on the line 4—4, Fig. 2;

Fig. 5 is a section on the line 5—5, Fig. 2;

Fig. 6 is a perspective view of an ordinary connecting plug which may be used for connecting any electrical apparatus to my improved contact receptacle;

Fig. 7 is a view similar to Fig. 2 but showing a different embodiment of the invention;

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

Fig. 9 is a fragmentary sectional view showing still a different embodiment of the invention.

Referring first to Figs. 1 to 6 which shows an embodiment designed for use in connecting any ordinary electrical apparatus such as a lamp, fan, vacuum cleaner, toaster, etc. to a house circuit, the contact receptacle embodying my invention is indicated at 1 and is in the form of a strip adapted to be associated with the base-board 2 which extends around the walls 3 of a room, which strip is provided on one face with a plurality of terminal-receiving openings 4 adapted to receive the terminals 5 of an ordinary plug connection 6, and which is also provided with two conductors 7, 8 which are embedded therein but are insulated from each other and which are formed with contact portions adapted to engage the plug terminals 5 when the latter are inserted into the apertures 4.

The terminal-receiving apertures 4 lead into contact-receiving chambers or recesses 9 which are formed in the member 1 and each

conductor member is provided with a contact portion which occupies one of the recesses 9.

In the construction shown in Fig. 2 the conductors are in the form of strips of conducting material which are embedded in the member 1 and each conductor member is bent at intervals to present the U-shaped contact portions that are situated in the chambers 9.

The U-shaped contact portions formed in the conductor 7 are indicated at 10 and those formed in the conductor 8 are indicated at 11. These U-shaped portions are so made that when the terminals 5 of the plug 6 are inserted into the apertures 4 said terminals will be wedged between the sides of the U-shaped contact portions thus making a proper electrical connection. The chambers 9 are slightly larger than the U-shaped members so as to allow the latter to expand if necessary and the U-shaped contact portions may also be shaped to present a tapering throat between them as shown in Fig. 3 thereby ensuring a good contact, or may be made with a bead 26 as shown in Fig. 9 for the same purpose.

The contact portions 10 of the conductor 7 occupy the alternate chambers 9 while the contact portions 11 of the conductor 8 occupy the remaining chambers 9. The terminal-receiving apertures 4 are shown as being spaced equal distances apart and the distance between any two adjacent apertures is the same as that between the plug terminals 5 so that the plug 6 can be plugged into any two adjacent openings or apertures 4.

Owing to the alternate arrangement of the contact portions 10 and 11 it will be apparent that when the plug 6 is plugged into any two adjacent apertures 4 one of the plug terminals 5 will be in engagement with the conductor strip 7 and the other will be in engagement with the conductor strip 8. These conductor strips 7 and 8 are connected to the two sides of the supply circuit and, therefore, with this construction it is possible to connect the electrical apparatus to which the plug 6 is connected to the supply circuit by merely plugging it into any of the apertures 4.

One use to which the invention may be put is illustrated in Fig. 1 wherein the member 1 is made as part of the base-board 2. It is shown as of the same thickness as the base-board and is placed on top thereof and between the base-board and the usual finish moulding 12. When thus placed the member 1 is entirely inconspicuous as it may be finished with the same finish as the base-board and moulding and a decorative design may be moulded into its face. It is possible to place this receptacle member 1 completely around the room thus enabling the plug 6 to be connected to the circuit at any point around the room. A dummy strip may

be substituted at any place where a continuous contact is not desired.

The necessary insulation between the conductor strips 7 and 8 may be provided for in any appropriate way. One convenient way is to make the strip of any suitable insulating material.

The receptacle member 1 may also be made up in various ways without departing from the invention. For instance, it might be moulded as a one-piece element with the chambers 9 and openings 4 therein or it may be made in horizontal sections which are secured together. As herein shown it comprises a central member 13 which is formed with the recesses 9 on opposite sides and with the cap or cover strips 14 and 15 which enclose the conductor members 7 and 8 and which are secured to the core 13 in any suitable way as by means of screws 16. With this construction the conductor members 7 and 8 are embedded in the member 1 and are entirely concealed although the contact portions 10 and 11 thereof are situated to be engaged by the terminals 5 of the plug 6 when said terminals are inserted through the apertures 4.

If desired, the strip 1 may be made with apertures 29 to receive nails or other fastening means by which the strip may be nailed in position.

It will be understood, of course, that the member 1 will be made of suitable insulating material so as to afford a proper insulation for the conductors 7 and 8.

The construction above described is suitable for a two-wire circuit. In Figs. 7 and 8 I have illustrated a little different embodiment of the invention which is specially adapted to be used in connection with a three-wire circuit. In this embodiment there are three conductors embedded in the receptacle member and each conductor is provided with a contact portion which occupies every third recess or chamber. In this embodiment the continuous receptacle member is indicated at 1a and it has embedded in it three conductor members 17, 18 and 19. Said member 1a is provided with terminal-receiving apertures which are arranged in groups of three, the apertures of any one group being indicated at 20, 21 and 22, and it is also provided with chambers 9a communicating with the apertures and in which are received contact portions formed from the conductor members 17, 18 and 19. The conductor member 17, for instance, is formed with the U-shaped contact portions 23 which occupy every third recess 9a, the conductor member 18 is provided with U-shaped contact portions 24 which also occupy every third chamber 9a, while the conductor member 19 is provided with the U-shaped contact portions 25 which occupy the remaining chambers 9a.

The apertures 20, 22 and the corresponding chambers 9a are shown as inclined in oppo-

site directions and it will be understood that the terminals on the plug will be similarly inclined. This arrangement ensures that the plug will always be properly entered into the apertures.

5 In Fig. 9 I have shown a little different embodiment of the invention wherein the sides or legs of each U-shaped contact portion is upset to form a bead portion 26 that will engage
10 the plug terminals 5 when the latter are inserted through the apertures 4. This construction is to ensure that a good electrical connection will be made between the plug terminals and the contact portions.

15 While I have shown herein some selected embodiments of the invention yet it will be understood that these are illustrative only of some of the uses to which the invention may be put and that the invention is capable of
20 use in various other relations where a multiplicity of electric outlets is desired. If, for instance, the strip is made to assume the form of letters or figures then by plugging electric lamps into the strip in close proximity to
25 each other along the length thereof said lamps will assume the shape of the letter or figure.

I claim:

A continuous electric contact receptacle for
30 a standard plug connection comprising a member in the form of a strip having in one face a plurality of equi-spaced terminal-receiving apertures arranged in a row, the spacing between adjacent apertures corresponding
35 to the space between the terminals of a standard plug connection, and a pair of conductors embedded in said strip, one conductor having contact portions for the alternate apertures and the other having contact portions
40 for the other apertures, each contact portion being situated entirely within the strip and being in the form of a socket adapted to receive the terminal of a standard plug connection.

45 In testimony whereof, I have signed my name to this specification.

ERNEST C. WHITING.

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